Mobius Maxi 4K Camera

Model: MM4K

User Manual

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Specifications

Model	Mobius Maxi 4K Camera (MM4K)
Angle of View	Lens A: FOV 150° (Diagonal), wide angle, f/2.8
Video Resolution	4K 30fps /2.7K 30fps /2.7K 60fps /1440P 30fps /1440P 60fps /1080 P30fps /1080P 60fps /1080P 120fps /720P 120fps /720P 240fps
Video File Format	MP4 / MOV
Video Codec	H.264 / AVC
USB Interface	Type C (USB2.0)
TV out (Video)	PAL / NTSC
Memory Card	MicroSD memory card (not included in standard package) Supports FAT32 and exFAT, working with larger cards, 512GB tested Note: 4K 30fps, 1080P 120fps and 720P 240fps requires U3 or above
LED Indicator Light	Red, Yellow, Blue, Green (can be turned off when needed)
Buzzer	Supported (beeper can be turned off when needed)
Microphone	Supported (Audio can be muted when needed).
Dimensions	Approx. 72mm x 35mm x 18.5mm (Lens diameter 20.5mm)
Net Weight	Approx. 50 grams only, with battery included.
Power Input	Standard USB DC +5V (Recommended Charger 2A or above)
Internal Battery	Rechargeable LiPo Battery (950mAh)
Working current	Max 412mA@ DC 5V, Max 490mA@DC 4.2V Fully charged battery can record up to 110 minutes of 4K 30fps videos and 155 minutes of 1080p 60fps videos
Photo Mode	single, burst and time lapse modes; JPEG
Long Exposure Photo	Supported (1s; 2s; 5s; 8s; 30s, 1minute)
Motion Detection	Supported
Loop Recording	Supported
Auto Record	Supported, auto start when connecting to external USB power supply
G-Sensor	Supported; Auto save and lock Event video files; auto flip video.
Advanced IQ Settings	Supported. Can set Exposure, AE metering, Contrast, Sharpness, AWB
Video Image Stabilization	Supported (EIS)

Product Diagram
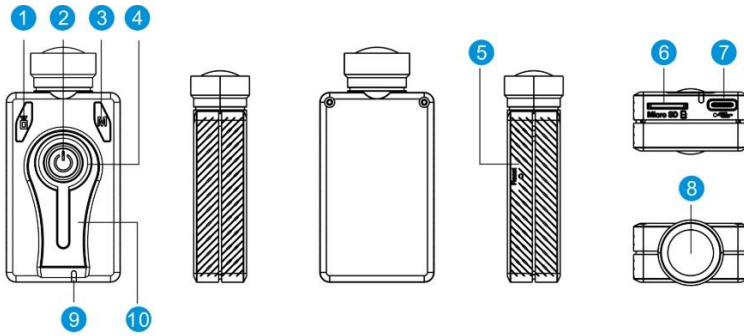
① Shutter (Start/Stop)	② Power (On/Off)	③ Mode (Switching Modes)
④ LED Indicator Lights	⑤ Reset	⑥ Micro SD Card Slot
⑦ USB Interface (Type C)	⑧ Lens	⑨ Rear LED (Red)
⑩ Heat Sink		

Preparation

Before you start

Before using the camera for the first time, ensure the internal battery is fully charged.

Charging
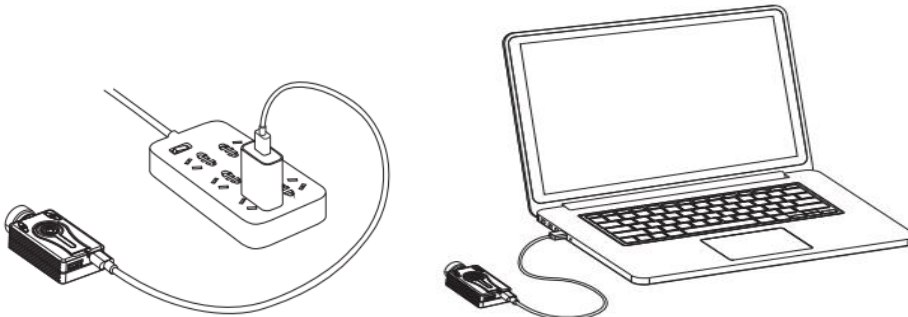
Connecting the camera to a USB port or a USB charging adapter (DC5V) using the provided USB cable.

Green LED will be on when charging, off when the battery is fully charged.

It normally takes about 2 – 3 hours to charge the battery while the camera is turned off. (Power off camera)

Only use quality chargers capable of supplying at least 1000mA (1A) and a stable voltage of 5V. Low quality chargers may not be able to supply enough current and can lead to premature battery failure.

Most USB 5V wall chargers for smart phones should work great.

A new and fully charged battery will record up to 110 minutes of 4K 30fps videos and 155 minutes of 1080p 60fps videos.

Charging and continuous recording

The camera can be used with external USB power to record even longer videos (like as a dashcam). It's highly recommended that the chargers or power banks can supply 2A or above and stable 5V.

Note: additional heat sink will be needed to help to release the accumulated heat. (See Additional Heat Sink)

Battery

Camera comes with a Lipo Battery, 950mAh, 3.7V, Rechargeable

It has battery connector, and you can replace a battery when it's depleting.

Extreme cold temperatures can decrease battery life. To maximize battery life in cold conditions, keep the camera in a warm place prior to use.

Super Capacitor

You can choose Mobius Maxi 4K to come with a super capacitor pack instead of a built-in battery.

Unlike batteries, capacitors don't pose the risk of overheating.

A super capacitor can only provide enough power to properly save a file before shutting off when external power is disconnected. It cannot supply enough power to record a video clip. A fully charged super capacitor will only last a few seconds. A super capacitor also charges very quickly.

▸**Important:** NEVER disconnect with USB power when you try to update firmware.

Only consider a capacitor version if:

○ You have external power supply (USB 5V) and you need the Maxi 4K to record continuously for many hours.

○ The camera will work or be used in extreme temperatures (for example, used as a dash cam in a car sometimes parked under direct sun light especially in summer).

Memory Card

The camera has no internal memory and requires a memory card (sold separately).

It supports Micro-SD (also known as TF cards), Micro SDHC, Micro SDXC cards.

It supports both FAT32 and exFAT formats. Cards with a capacity of up to 512GB and 1TB have been tested.

It is recommended to use cards with a U3 rating or above for 4K recording.

▸**Important**: If the firmware detects that the card is too slow (class rating too low), camera may take it as an invalid card, and it won't start; or it may cause sudden stop of video recording. Please change a new faster card.

Install and remove the memory card:
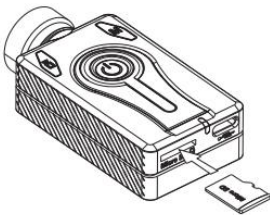
Please ensure that the memory card is inserted with the correct orientation as shown on the diagram. Failure to do so may result in damage to the camera or card. Insert and press the card into this slot until it is fully seated. To remove the memory card, press it gently. When the card pops out, carefully pull the card until it is free of camera body.

Formatting

▸**Important**: Make sure to backup all files stored on the card before any card formatting.

You can use standard formatting tools provided by the operating system to format the cards, in FAT32 or exFAT.

For optimal card performance it is recommended to do in-camera formatting.

Another excellent formatting utility is "SD Formatter" which can be downloaded from the site below, this utility has been specifically designed to format SD cards. https://www.sdcard.org/downloads/formatter/.

In-Camera Formatting

○ Use the TXT configuration file to do In-Camera formatting.

○ Use mSetup tool or mTool to do In-Camera formatting.

○ In-Camera formatting is also available via the TV out OSD menu.

○ The Camera contains a built-in formatter which is recommended to be used to format the SD card.

1. Make sure the camera is disconnected and is turned off.
2. Turn on the camera and wait until it is in one of the Standby modes (steady yellow, blue or red LED).
3. ▸ If the camera was set to auto-record, press the Shutter button (top left) to stop the recording.
4. Press and **hold down the Shutter button. DO NOT RELEASE the button.**
5. Very quickly press the Mode button 4 times.
6. ▸ If the LEDs don't start to blink, release the buttons and start over again at 4.
7. The LEDs will blink very quickly while the card is being formatted.
8. Release the Mode and Shutter buttons once the LEDs start to blink.
9. The camera will return to Standby mode when the formatting is finished.

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Operating Instructions

Power On/Off

▸ To power on, press and hold the Power button for 1-3 seconds, the LED lights will start flashing, the camera will beep 3 times, and the yellow LED will turn on. The camera is now on and in standby mode.

▸ To power off, press and hold the Power button for 1-3 seconds, the LED lights will start flashing, the camera will beep 5 times, and all the LEDs will turn off. The camera is now off.

▸ Camera will be automatically powered on when connecting with PC's USB port or external USB power.

Mode Switching

The camera has 3 working modes: Video 1 (Yellow LED), Video 2 (Blue LED), Photo Mode (Red LED).

When the camera is on and in standby, press the Mode button to switch modes (from Video 1 to Video 2, and to Photo, and then back to Video 1)

▸ *If the camera is connected to an external TV monitor using the TV out cable, the camera will enter Playback mode (Red LED) after pressing the Mode button (top right) when in Photo mode. See TV out Mode and OSD menu.

Start / Stop Video Recording

When the camera is on and in standby mode (Video 1 or Video 2), press the Shutter button to start a video recording, the camera will beep, and the LED will begin to flash slowly. Press the Shutter button again to stop recording, the camera will beep twice, and the LED will remain on.

▸ If the recording LED has been disabled, the yellow or blue LED will slowly blink 3 times and then turn off, indicating that recording has started. Press the Shutter button to stop and save the file. The LED will turn back on.

Take a Photo / Photos

The red LED indicates that the camera is in Photo mode. Press the Shutter button to take a photo. The LED will flash and the camera will beep once, while the photo is taken.

The camera can also be set to take Burst Photos or Time-lapse Photos.

LED Indicator Lights

The following LED states are for a camera **not connected** to the PC.

Steady Yellow - The camera is in Video Mode 1 and is on standby.

Slowly flashing Yellow - The camera is in Video Mode 1 and is recording video. The Video Recording indicator (see configuration) must be ON for this to work.

Steady Blue - The camera is in Video Mode 2 and is on standby.

Slowly flashing Blue - The camera is in Video Mode 2 and is recording video. The Video Recording indicator (see configuration) must be ON for this to work.

Steady Red - The camera is in Photo Mode.

Red LED flashes once - The camera has taken a picture.

Steady Green - The battery is charging. It will be off when battery is fully charged.

Rear LED

If the camera is configured to show the Recording Indicator, then the rear red LED will normally blink in sequence with the main LED while recording or in standby mode.

▸ The rear LED will blink when WiFi mode is enabled and the camera is waiting for a smart phone to connect. The top LED will be steady.

Type C USB Interface

Maxi 4 Camera uses popular Type C USB connector. It supports USB2.0.

The provided USB cable is Type A to Type C. Please connect Type A end with your charger or computer, and Type C end with the camera. Please use the provided USB cable for charging and USB data transferring.

▶**Important Note:** if your charger or your computer has Type C output only, Type C to Type C cable may not work. You can use the provided USB adapter (Type C to Type A Female)
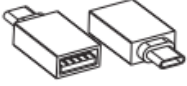
Please plug the provided USB adapter into your charger or computer first, and then connect with the provided USB data/charging cable.

Connect with Computer
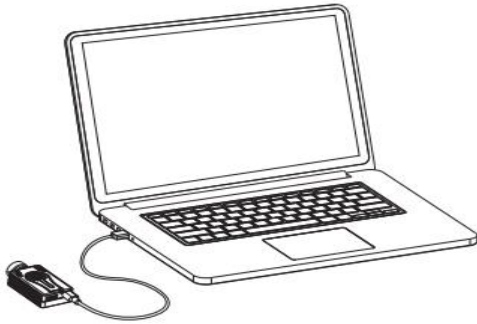
The camera can connect with different computer systems as a generic USB device. Normally it's Plug and Play.

Note: if this is the first time you are connecting the camera to the PC, the operating system may attempt to install the required drivers automatically. This may take a few minutes.

USB Drive (Removable Disk Mode)

Connect camera with card inserted to USB port of PC using provided USB cable, the camera will turn on and should be recognized as **USB Drive**, and the red LED will turn on. The green LED may turn on at the same time indicating that the battery is charging.

You can access video and photo files on memory card.

Press the Shutter button to enter **Webcam** mode (blue LED). Press the Shutter button again, to revert back to **USB Drive** mode.

▶ **Note:** Turn the camera off if you just want to charge the battery.

▶ **Note:** Camera may not work with some USB hubs. If connection fails with a USB hub, please connect the camera directly to the PC.

▶ **Note:** You cannot record videos or take photos if the camera is connected to the PC as USB drive.

USB PC Camera (Webcam Mode)

There are two ways in which you can enter webcam mode.

Method **1**: Remove the SD card and connect the camera to the PC.

The camera will connect in webcam mode.

Method **2**: Connect the camera to the PC until it is in USB Drive (Removable Disk) Mode. See above.

Press the Shutter button. Camera will exit USB Drive (Removable Disk) Mode and enter Webcam Mode.

▶ **Note:** Turn the camera off if you just want to charge the battery.

The Win10 system "camera" program is a recommended free and versatile webcam program.

Connect with Smart Phone
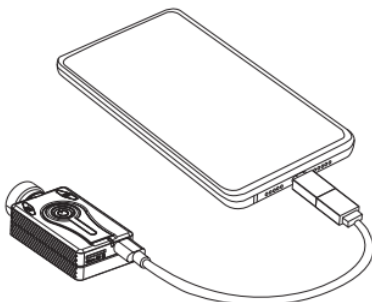
If your smart phone has Type C interface and supports USB OTG, you can wire them using provided USB cable (to camera) and Type C USB OTG adapter (to phone).

The camera can work as a USB Disk to your phone, and you can easily access the files on the memory card.

The camera can even work as a USB camera if you have the correct app. (Press Shutter button to switch between USB Disk /Camera mode).

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TV out (Composite Video Output)

Maxi 4K camera supports TV composite video output.
Please connect the camera to the TV/monitor with CVBS Input using the TV out cable (may be sold separately).
See diagram below.
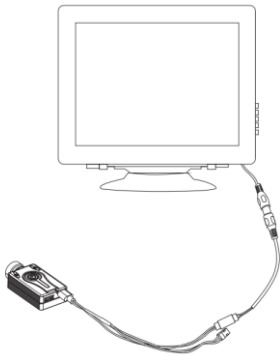
Turn camera on, enter Video 1 mode, you will have live video preview on the TV / monitor right away.
You can operate camera as usual, with live preview on TV / Monitor.

Press Mode button, enter Video 2 mode with preview; -> Press Mode button again, enter Photo mode with preview; -> Press Mode button again, enter TV out OSD setting screen. You can make the settings. See TV out OSD settings. -> Press Mode button again, back to Video 1 mode
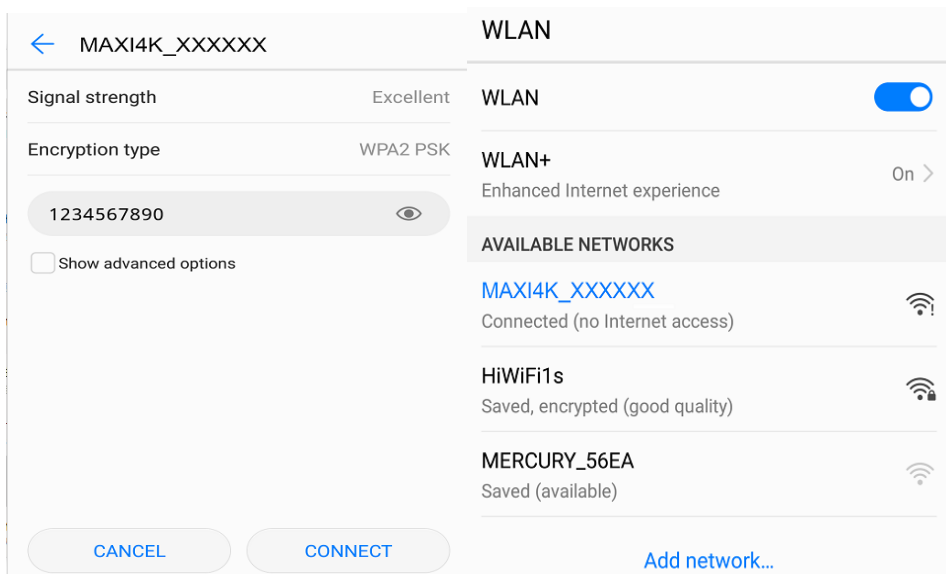
WiFi Connection

Maxi 4K camera supports WiFi connection with smart phones.
Note: There is no specific WiFi app for this camera. You can use the general iCatch app below to preview videos and download video / photo files to your phone. No camera settings can be modified using the wifi app.
Please download and install the app iSmart DV2 from Google Play or Apple App Store.
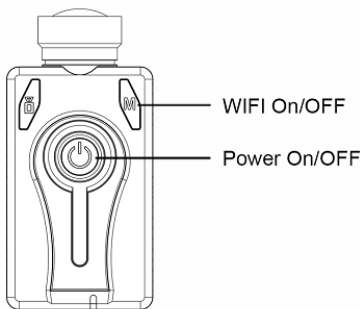
1. Press Power button to turn camera on The camera will enter standby mode.
2. Press and hold the Mode button for approx. 3 seconds until you hear 2 beeps, the red rear LED will start flashing continuously, along with a beeping sound. WiFi is enabled, waiting for connecting.
3. In Settings of your phone -> WLAN -> Select Maxi4K as your Wi-Fi connection

When WiFi connection is established, red rear LED stops blinking and will remain on. Beeping stops.
Open the iSmart DV2 app on your phone. Connect camera. And then you can have live preview of camera.
You can also access memory card of camera to copy files to your phone.

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DashCam

You can charge the battery and record videos at the same time using a standard external USB 5V DC power supply. You can use Mobius Maxi 4K Camera as a high quality DashCam.

Make sure to use a quality charger capable of supplying at least 2000mA (2A) and a stable voltage of 5V.

Low quality chargers may not be able to supply enough current and can lead to premature battery failure or, in the worst case, even destroy the camera.

Note: Extremely long recordings will cause the camera to become very hot which may affect the battery life. It will be recommended to add an extra heat sink to release the heat from camera. Please see Additional Heat Sink.

Also, you may consider an optional Super Capacitor instead of the battery.

It's recommended to use the following settings when using as a dashcam. Please also see Camera Setup.

-Video File Length

Choose 1 minute, 3 minutes or 5 minutes a video. It will stop / save / start new seamless videos continuously.

-Video Flip / Video Rotate

You may mount the camera upside down. You may set it to On or Auto.

-Auto Record (PowerOnRecordAdapter)

Set it to yes, to automatically start recording when connected with external USB power Adapter.

-Loop Recording

When set to on, the camera will continuously record, overwriting the oldest file when the card is full.

Note: make sure to backup important files.

-File Locking – Event (GSensorSense)

You can also choose to save and lock event video files when the camera's G-sensor detects an impact. Set G-Sensor sense to Middle, or Low if you don't want to lock too many files, or High (files may still be locked on bumpy roads).

-Capacitor

You may consider a Super Capacitor version.

-Additional Accessories Needed

It is possible that you may need the accessories below (sold separately):

USB Car Charger (5V, at least 2000mA output)

3 Meters Charging cable (Type A to Type C)

Windshield mount (Suction Cup Mount, or Adhesive Mount, many choices)

You may find lots of helpful information regarding using Maxi 4K as a dash cam on Dash Cam Talk forum,

https://dashcamtalk.com/forum/threads/mobius-maxi-4k-action-camera-dashcam.45498/

Camera Setup (configuration and date/time setting)

There are four methods to sync the camera's date and time, and to set the parameters:
○ mSetup: very powerful and convenient GUI tool for Windows, written by Isoprop
○ mTool : another GUI for Windows, it's a simple and small tool, and it's only for MM4K.
○ Text file (SYNC_PARA.CFG.BAK): simple text file editing (works on most operating systems)
○ external TV/monitor (OSD): uses camera button presses to select function settings.

1. GUI configuration: mSetup - recommended method for Windows users
On Windows it is recommended to always use the program mSetup.exe to modify the camera's configuration or format the SD card. mSetup communicates directly with the camera and makes configuring the camera a very simple task. It has tool tips for each setting as well.
mSetup will also alert and prevent conflicting settings being set.
The camera must be in Webcam mode in order to set the parameters by software. Please see Webcam Mode
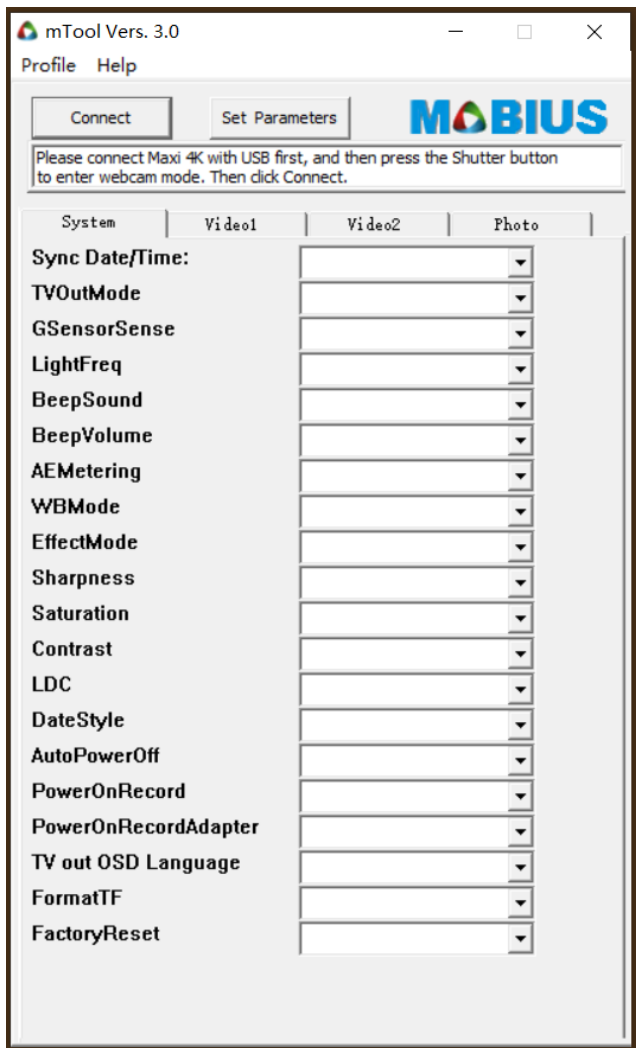You can download mSetup on below site:
http://www.mytempfiles.info/mobius/mSetup.zip
2. GUI configuration: mTool (another Windows tool)
Please download the tool from below link:
www.mobiusactioncam.com/maxi4k

3. Manual configuration using a text file

Like previous Mobius cameras, you can always edit the txt config file to change the settings and sync the date /time. It's useful when you are not on a Windows PC.

The camera will always write a txt file on the memory card's root folder, named SYNC_PARA.CFG.BAK, which can be opened and edited with a plain text editor, like the Windows Notepad program.

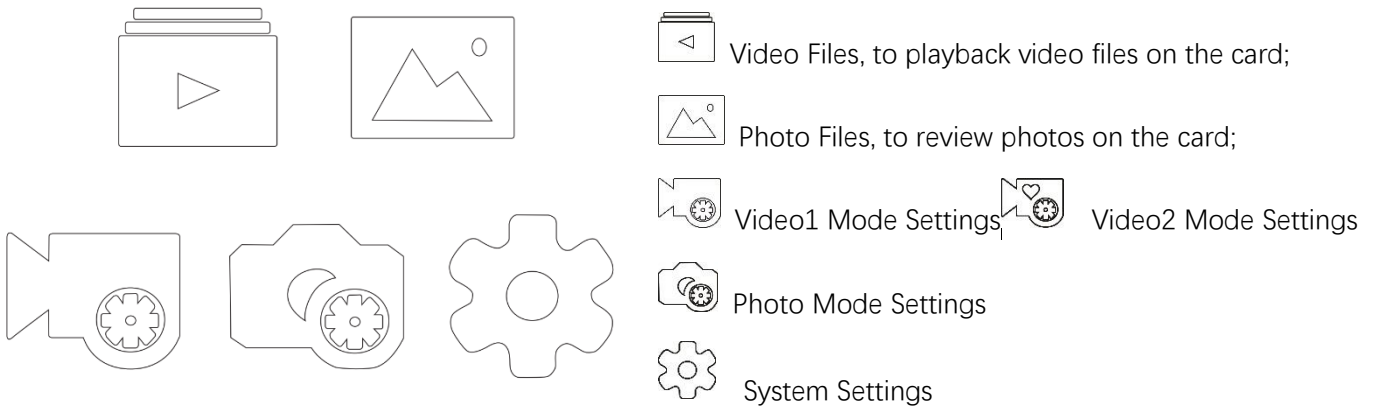Connect camera to PC, working as a USB drive.

Edit txt file SYNC_PARA.CFG.BAK, only change the values in brackets [ ] and then edit the file name and save file as SYNC_PARA.CFG (with .BAK deleted).

Camera will detect the renamed configuration file and load in the parameters when it turns on again, and will write a new ".BAK" file to the memory card confirming the new settings have been loaded.

4. Manual configuration using an external TV/monitor

It is also possible to manually change the configuration settings by using the On Screen Display (OSD) by connecting the camera to an external TV/monitor.

1. Connect the camera with a TV/monitor, please see TV Out.

2. Turn the camera on. It will enter Video 1 mode with live preview on TV/monitor

3. Press Mode button, it will enter Video 2 mode with live preview on TV/monitor

4. Press Mode button again, it will enter Photo mode with live preview on TV/monitor

5. Press Mode button again, it will enter OSD mode on TV/monitor and shows the screen below:

Video Files, to playback video files on the card;

Photo Files, to review photos on the card;

Video1 Mode Settings   Video2 Mode Settings

Photo Mode Settings

System Settings

Press Power button , to move the selection downwards, and then back to first one from bottom;
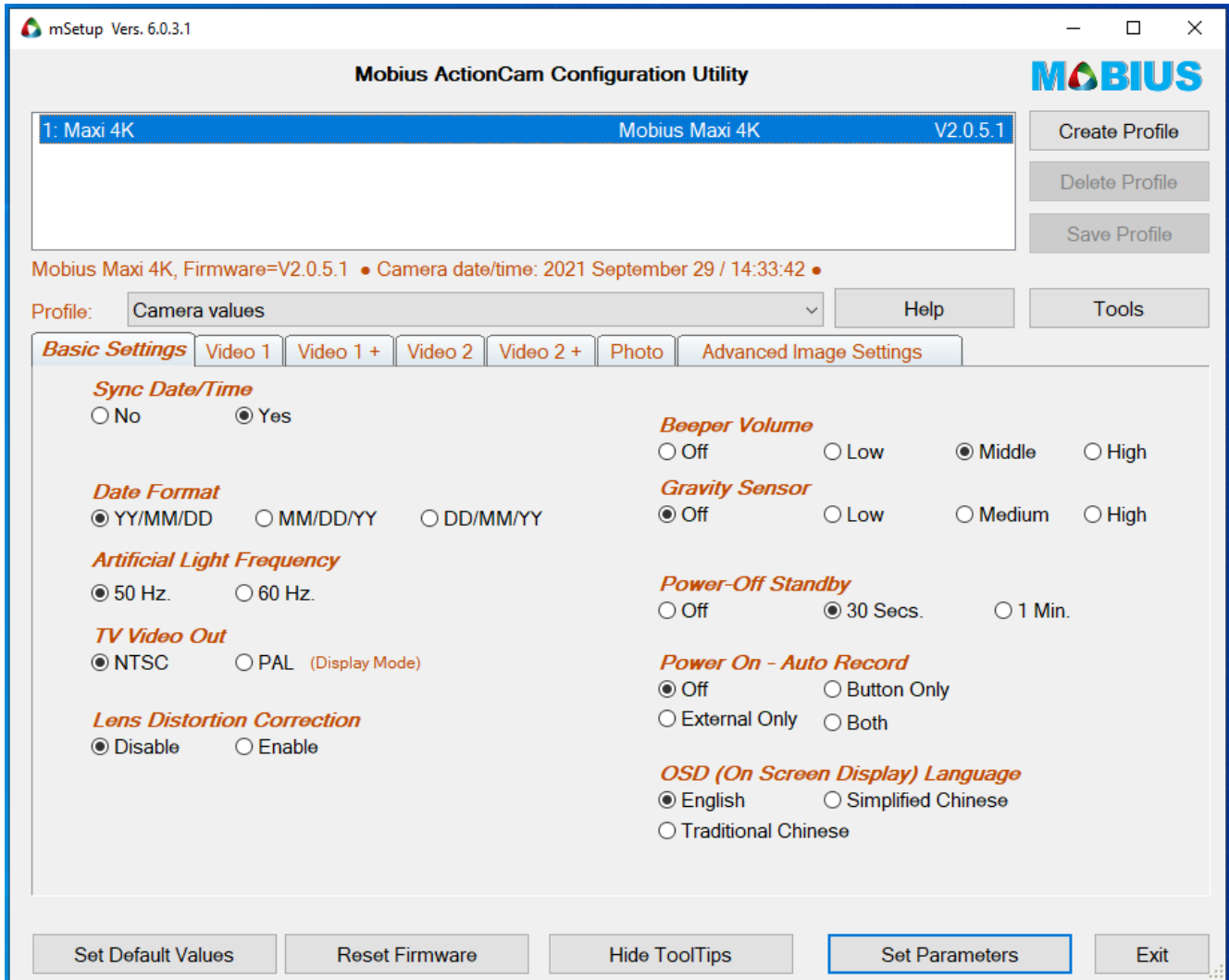
Press Shutter button , to enter /selection;

Press Mode button , to exit

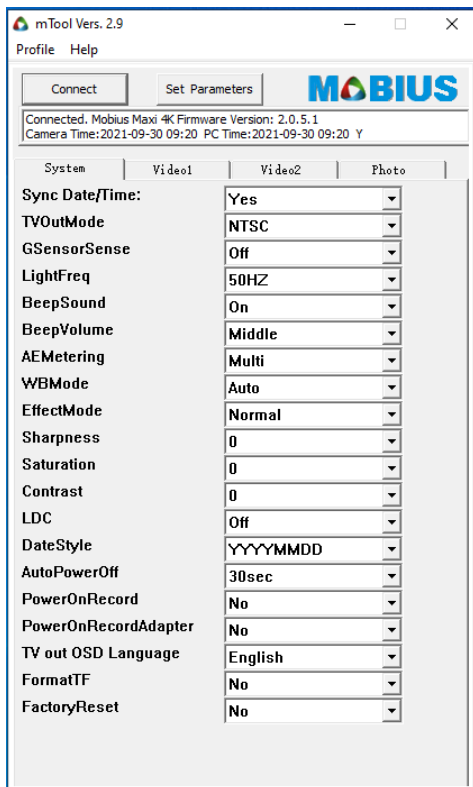How to enter Video 2 Mode Settings: when move to Video 1 Mode settings , press and hold Mode button approx 2 seconds, it enters Video 2 Mode Settings (with a heart shape)

Basic Settings

Note: #System setting in mTool and txt configuration file.   (Back to Table of Contents)

- **Sync Date/Time (UpdateDateTime)**

To sync camera's date and time with PC's date and time. It always defaults to Yes in mSetup and mTool.

You can manually edit the date and time in txt configuration file as well. It defaults to No

- Date Format (Date Style)

To set the format of the date which is shown on photos and videos. We can choose YY/MM/DD (default), MM/DD/YY, or DD/MM/YY.

- Light Freq (Artificial Light Frequency)

To set this parameter to the frequency of the household electricity of your country

(like, USA=60Hz, Europe=50Hz).

It reduces flickering when filming indoors under artificial lighting.

- TV Out Mode (Video Out)

To set the required composite video output format. A special TV out cable (may be sold separately) is required to enable TV Video out. (USA=NTSC, Europe=PAL)

- TV Out OSD (On Screen Display) Language

To set the language of the OSD (On Screen Display) when using a TV/monitor to set the parameters.

3 languages supported: English, Simplified Chinese, and Traditional Chinese

- LDC (Lens Distortion Correction)

To enable LDC (On) or disable LDC (Off). Default is off

- Beep Sound and Beeper Volume

To turn the beep sound off. Or to set the beep sound level.

Note: two settings in txt configuration and mTool (Off/On, Low, Middle, High)

- G Sensor Sense (Gravity Sensor)

Default is off. You can enable it and set the sensibility of the gravity sensor. When enabled, the video clip will be flagged in the event of an abrupt change of the center of gravity (e.g. impact). The flagged file will be saved in the EVENT folder.

Note: this parameter is only valid when "Loop Recording" is enabled.

- Auto Power Off (Power Off Standby)

By default, camera will auto shut down if no operations in 30 seconds in standby mode, to save battery.

You can turn it off if you don't want camera auto shutdown. You can set it to wait 1 minute to shut down as well.

- Power On – Auto Record

To turn on/off automatic recording when Power button is pressed or USB power is connected.

Note: two separate settings in txt configuration and mTool.

PowerOnRecord (No/Yes): when enabled, it starts to record videos automatically when camera turned on by pressing the Power button. The video recording will start immediately and there is no need to press the Shutter button to start recording.

PowerOnRecordAdapter(No/Yes), when enabled, it starts to record video automatically when camera is connected with external USB charger adapter, it will also turn off automatically when external power is disconnected.

You may enable this setting when using as a DashCam. See DashCam.

- Format TF (In Camera Formatting)

In mSetup, when connected with camera successfully, click Tools. A new window will pop up. Please find In-Camera FORMAT, and click the Format. It will start to do in camera formatting for the memory card.

In mTool, select Yes for this parameter, and then click Set Parameters. It will start to do in-camera formatting.
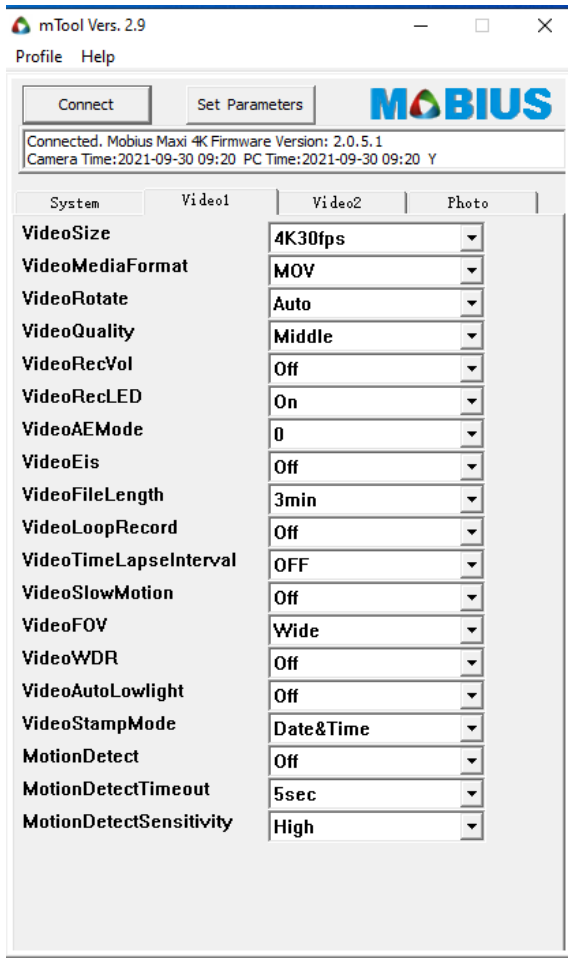
- Factory Reset

Choose yes in mTool or txt configuration. It sets all parameters back to default values from factory. It has highest priority, and it'll overwrite other settings you modified.

In mSetup, simply click Reset Firmware.

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Video Settings (Video 1 and Video 2)
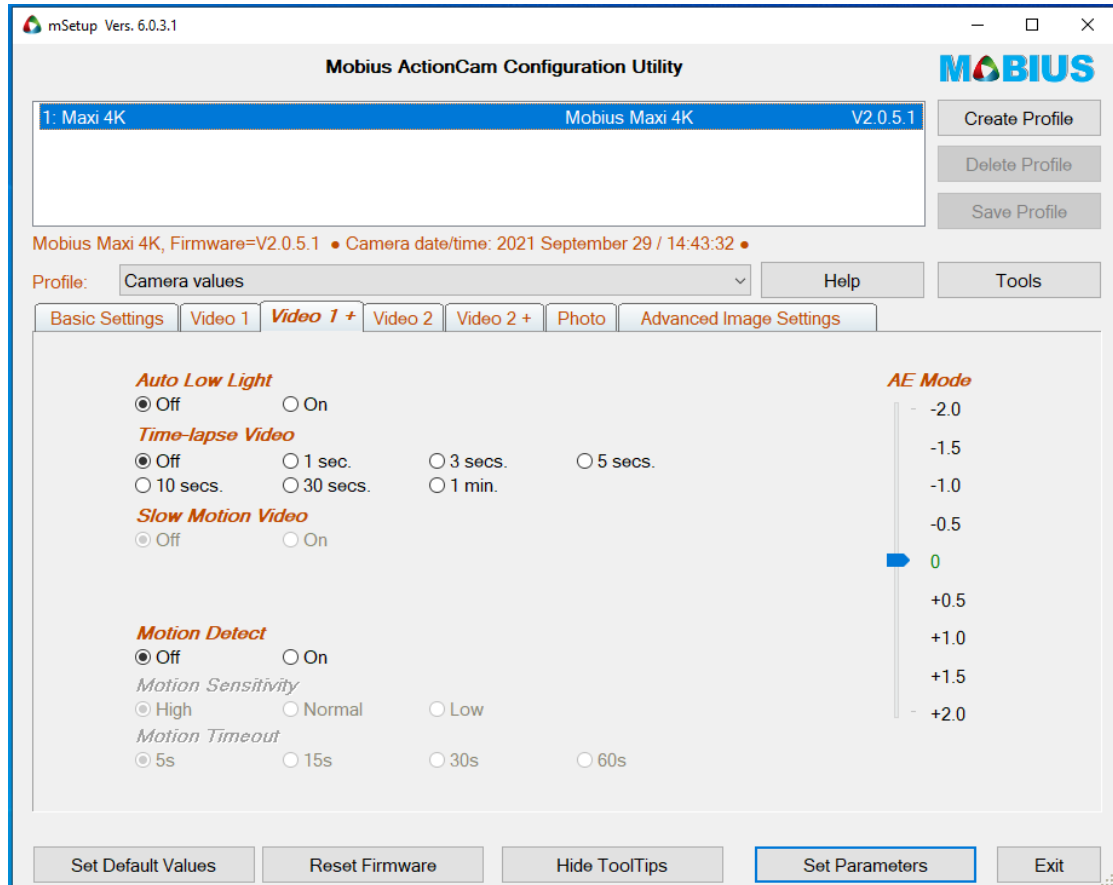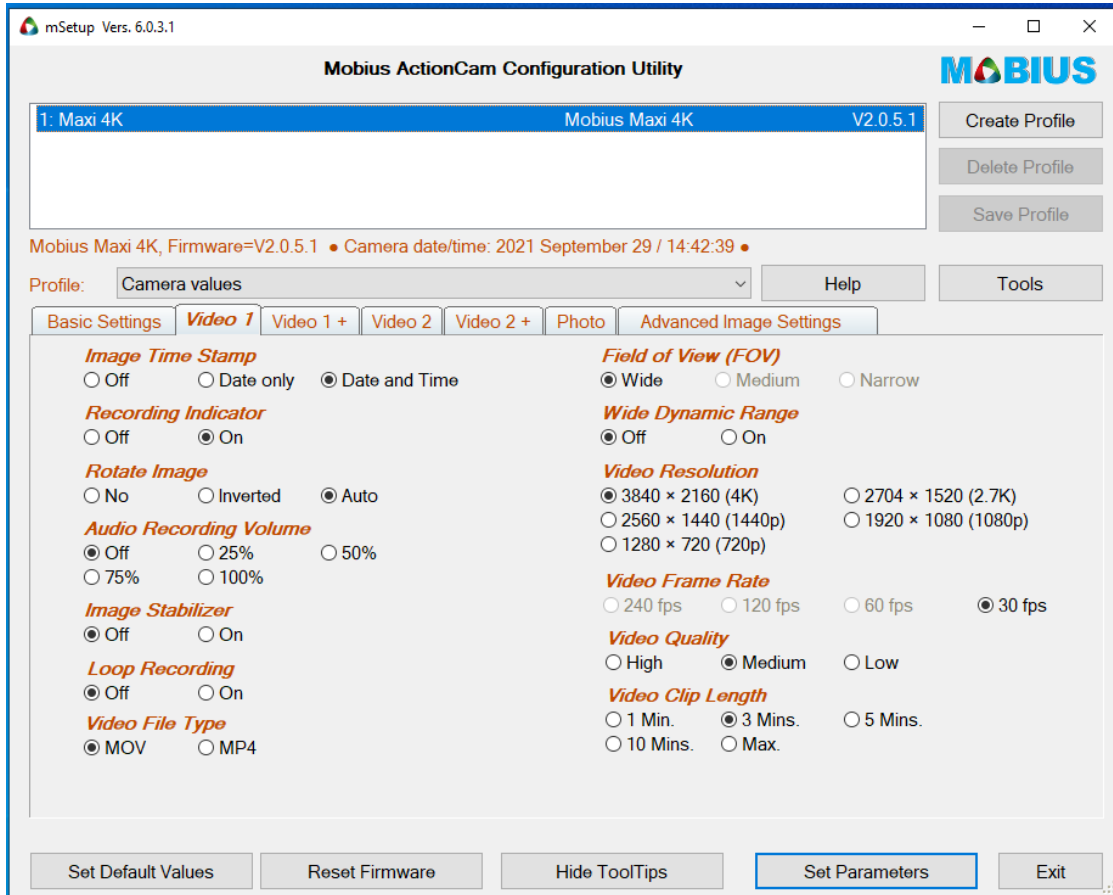
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#Video1 Setting
VideoSize=[0];   #0~9:
4K30fps/1520P30fps/1520P60fps/1440P30fps/1440P60fps/1080P30fps/1080P60fps/1080P120fps/720P120fps/720P240fps
VideoMediaFormat=[0];   #0~1: MOV/MP4
VideoRotate=[0];   #0~2: Off/On/Auto
VideoQuality=[1];   #0~2: High/Middle/Low
VideoRecVol=[3];   #0~4: Off/25%/50%/75%/100%
VideoRecLED=[1];   #0~1: Off/On
VideoAEMode=[4];   #0~8: -2.0/-1.5/-1.0/-0.5/0/+0.5/+1.0/+1.5/+2.0
VideoEis=[0];   #0~1: Off/On
VideoFileLength=[2];   #0~4: Max/1min/3min/5min/10min
VideoLoopRecord=[0];   #0~1: Off/On (Note: 10min and Max not supported for Loop Recording)
VideoTimeLapseInterval=[0]; #0~6: OFF/1sec/3sec/5sec/10sec/30sec/1min
VideoSlowMotion=[0]   #0~1: Off/On
VideoFOV=[0];   #0~2: Wide/Medium/Narrow
VideoWDR=[0];   #0~1: Off/On
VideoAutoLowlight=[0];   #0~1: Off/On
VideoStampMode=[2];   #0~2: Off/Date/Date&Time
MotionDetect=[0];   #0~1: Off/On
MotionDetectTimeout=[0];   #0~3: 5sec/15sec/30sec/60sec
MotionDetectSensitivity=[0]; #0~2: High/Middle/Low

-Video Size (Video Resolution and Frame Rate)

To set video resolution and frame rate.

Camera supports 3840x2160 (4K) 30fps; 2704x1520 (2.7K) 30fps; 2704x1520 (2.7K) 60fps; 2560x1440 (1440P) 30fps; 2560x1440 (1440P) 60fps; 1920x1080 (1080P) 30fps; 1920x1080 (1080P) 60fps; 1920x1080 (1080P) 120fps; 1280x720 (720P) 120fps; 1280x720 (720P) 240fps

-Video Media Format (Video File Type)

To set video file format. It supports .MOV and .MP4.

-Video Rotate (Rotate Image)

Default is Off

On (Inverted): to rotate the video image 180°, so the camera can be held upside-down while recording.

Auto: camera will detect camera position (if it's upside-down or not) before starting video recording, to make the video to be recorded in upright position. Note: the video will not be inverted if the camera is rotated once the recording has started.

-Video Quality (Bitrate) (Video Data Rate)

To set the average highest video data rate the camera uses when capturing and processing videos.

Higher data rate means larger file and requires faster memory card.

High / Middle /Low

64GB memory card can record approx. 130 minutes of 4K 30fps at High bitrate, 160 minutes at Middle bitrate, 200 minutes at Low bitrate

-Video Rec Volume (Audio Recording Volume)

To set the volume of audio track. You can mute the audio by setting it to Off

-Video Rec LED (Recording Indicator)

To turn on/off video recording LED Indicator light. Default is On, you can turn it off when needed.

-Video AE Mode

To set video image exposure value. Minus side, darker; Plus side: brighter.

-Video EIS (Image Stabilizer)

To turn on / off video Image Stabilizer

Note: EIS is only supported for 4K 30fps, 2.7K 30fps, 1440p 30fps, 1080p 30fps and 1080p 60fps.

Note: Turn off Video Time Stamp when EIS is on.

-Video File Length (Video Clip Length)

Camera will record videos clips in the set length. When the clip length is reached the camera will stop / save the current video clip and continue recording the next clip, until card is full or battery is running out.

Consecutive clips of 1 Minute, 3 Minutes, and 5 minutes are seamless (no loss of video frames or audio)

Clip length set for Max length will stop / save / continue a new clip when the 4GB (for FAT32) and 60GB (for exFAT) file size limit is reached.

Clip length set to 10 Minutes may not have 10 minutes if the video data rate is very high and the 4GB (for FAT32) file size limit is reached before 10 minutes. 10 Minutes and Max clips may not be seamless.

-Video Loop Record (Loop Recording)

To continue recording when memory card is full. Default is off.

When set to On, the camera will continuously record, overwriting the oldest files when the card is full.

Warning! Make sure to back up important files.

Note: Loop Record is only supported for video clip length 1 minute, 3 minutes and 5 minutes. Shorter video clip length can also minimize the risk of data lost in case of card issues.

This setting must be On, in order to use Gravity sensor to flag and lock Event video file while detecting an impact.

-Video Time-lapse Interval (Time-lapse Video)

To record video images at a specific slow interval such as one frame every second.

When the video is played back at average speed (e.g. 30fps), the scenes appears to move much faster.

It's the opposite of slow motion video.

Note: no audio for time-lapse video.

-Video Slow Motion (Slow Motion Video)

Slow motion video only supports 1080p 120fps and 720P 120fps / 240fps, videos playback in 30fps

-Video FOV (Field of View)

To change the viewing angle, the area that the camera can see.

Default is Wide, full FOV of camera. You may want a narrower image with less distortion than a wide angle image.

Medium or Narrow FOV is only supported for 2.7K 30fps / 60fps; 1440P 30fps / 60fps; 1080P 30fps / 60fps

-Video WDR (Wide Dynamic Range)

You could enable Wide Dynamic Range in bad lighting conditions.

It's recommended to use with Video Auto Low Light.

-Video Auto Low Light

To get best low light performance, for indoor lights and night lights, etc.

-Video Stamp Mode (Image Time Stamp)

Date /Time stamp is on by default. You can turn it off or set it to show Date only.

-Motion Detect

When it's set On, it will start video recording when sensor detects motion.

It's Off by default.

-Motion Detect Timeout

If no motion is detected within a specific time frame, camera will stop video recording and return to standby mode and wait for new motion detection. Only valid when Motion Detection is On.
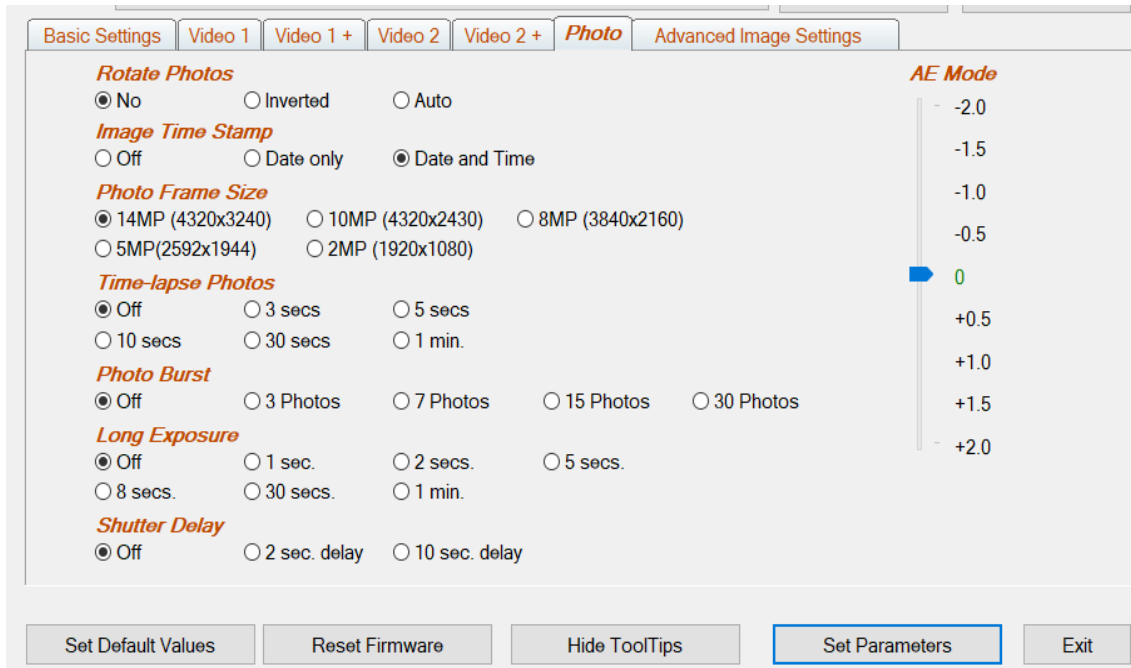
-Motion Detect Sensitivity

To set the motion sensitivity. Only valid when Motion Detection is On.

Photo Settings

- **Photo Size (Photo Frame Size, Resolution)**

To set photo size in pixels.

- **Photo Rotate**

To rotate photos by 180° (may be needed when camera is held upside-down).

- **Photo AE Mode**

To set photo exposure value. Minus side, darker; Plus side: brighter.

- **Photo Time-lapse Interval (Time-lapse Photos)**

To take sequential photos at a specific time interval such as one photo every 3 seconds.

- **Photo Burst Mode**

To take a defined number of consecutive photos each time the Shutter button is pressed

- **Photo Delay Timer (Shutter Delay)**

To set a specific delay between pressing the Shutter button and actually taking a photo.

- **Photo Long Exposure**

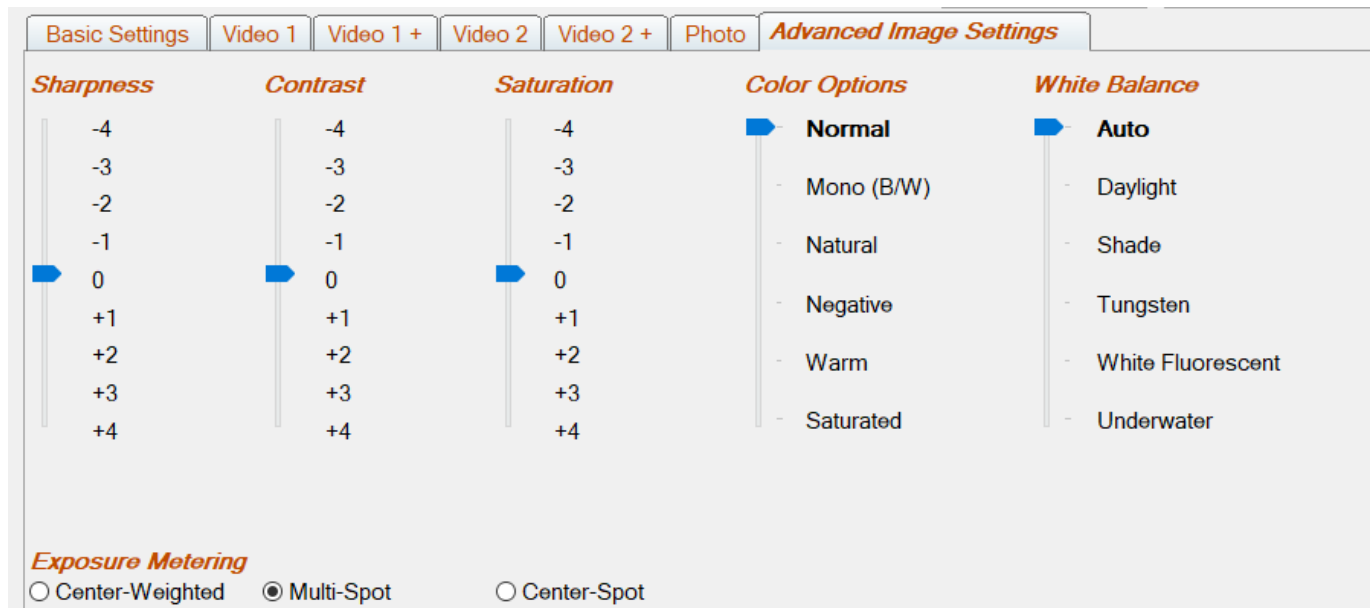To set a specific duration to keep shutter open for photo taking.

Note: You can only turn on one of the following parameters: Time-lapse Photo, Photo Burst, Long Exposure and Delay Timer

- **Photo Stamp Mode (Image Time Stamp)**

To set Time stamp overlay on photo On or Off. It's On by default.   (Back to Table of Contents)

Advanced Image Settings

- Sharpness

To set sharpness of image. Minus side: less sharp; Plus side: sharper.

- Contrast

To set contrast of image. Minus side: lower; Plus side: higher.

- Saturation

To set saturation of image. Minus side: lower; Plus side: higher.

- Color Options

To set color options.

- White Balance

To set white balance.

- AE Metering

You can set Exposure Metering to better control the exposures. It's Multi-Spot by default.

Firmware Updating

Camera will be well supported and new firmware may be released to provide new functionality or bug fixes if any. You can use mSetup (click the 'Tools' button) to automatically update the firmware. This is by far the easiest method.

Manual Firmware Update

1. DO NOT PRESS ANY BUTTONS during the firmware update process.

2. Always charge the camera and format the memory card first before doing firmware updating.

3. Connect the camera to PC as USB drive.

4. Copy the new firmware file (MAXI4K.BRN) into the camera's flash card root folder.

5. Disconnect the camera from PC and wait until it turns off, all LEDs off.

6. Connect the camera to PC. The green LED, indicating the battery is charging, may turn on. **WAIT**.

7. Camera will be on and the rear red LED will blink indicating the firmware is being updated. **WAIT**

8. The firmware will be updated when the rear red LED stops flashing, and camera will be turned off. DONE

Note: The firmware file will have been automatically deleted.

The date and time and all parameters will be reset to their default values.

Important: If camera can no longer be connected as a USB drive, you can use a card reader to copy the firmware, insert the memory card with firmware file, and then do steps from 6.

Backdoor Firmware Updating

The firmware could be corrupt somehow, very rarely but it happens, especially unexpected lost power during firmware updating. The camera cannot be turned on, and not responsive to reset as well. We have a backdoor firmware updating method. Please contact eletoponline@gmail.com for detailed instructions and tool. It's easy, you will only need a PC running Windows.

Additional Heat Sink

There is a silver heat sink on case cover, it helps to release heat from the DSP chip inside. It may get hot during 4K video recording.

You may need an additional heat sink for very long time continuous video recording (many hours). You may get one as shown on diagram below or DIY a metal heat sink.
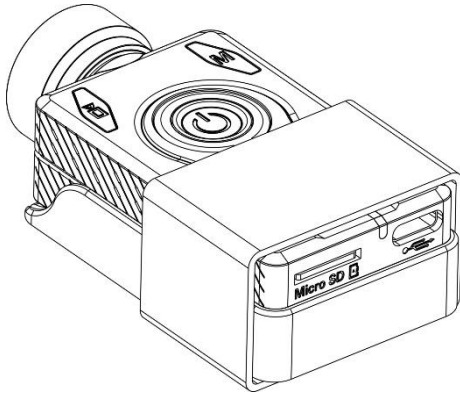
The additional heat sink can reduce approx. 10 degrees Celsius of temperature inside the case as tested.
  (Testing environment conditions: 28 degrees Celsius, RH: 38%)

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Trouble Shooting / FAQ (Frequently Asked Questions)

Q. When I press the Power button, nothing happens.
A. An apparent 'dead' camera can be caused by the following:
- The battery is flat or defective. Replace or charge the battery.
- The Firmware may have locked up. Use a paper clip or similar object to press the Reset button.
- The lens module cable is not properly inserted or defective. Ensure the lens cable is firmly and squarely seated at both ends. Take note that the connectors have an opening mechanism. Never use force to insert/remove the cable.

Q. When I turn on the camera or while recording the rear LED continuously blinks very quickly. The camera will, at some time, turn off.
A. The battery is almost depleted and needs to be recharged.

Q. When I turn on the camera the top LEDs blink (Red and Yellow) and the rear LED rapidly blinks. The camera then turns off.
A. Invalid card, or there is no SD card inserted, or the SD card is not making proper contact. Insert the card and/or clean the contacts.

Q. When I try to record a video or photo the yellow and blue LEDs blink slowly about 4 times. The blinking rate then increases and the camera turns off after a few seconds.
A. There is a problem with the SD card.
- The card is full. Format the card using in-camera formatting or SDFormatter, if possible.
- The card is not formatted correctly. Format the card using in-camera formatting or SDFormatter, if possible.

Q. The camera functions normally but only records very short clips and may turn off.
A. This can be caused by the following:
- The battery may not be charged. Charge the battery for about 2 hours until the green LED turns off.
- The battery is too cold to provide the power needed to record video. Keep the battery warm before using the camera in cold temperatures (around freezing and below).
- Check the integrity of your card by using the program h2testw to make sure your card is genuine and not a fake card that has been up-rated.
- The card used is not compatible with the camera. Use U3 or above cards for best results.

Q. When I turn on the camera the rear LED will remain on, even after pressing the Reset button. The top LED is off but may initially show a very short blink.
A. The lens module cable is not properly inserted or defective. Ensure the lens cable is firmly and squarely seated at both ends. Take note that the connectors have an opening mechanism. Never use force to insert/remove the cable.

Q. The camera does not react.
A. The firmware may have entered a continuous loop, or the battery may be discharged.
- Make sure the battery is fully charged.
- Use a paper clip or similar object to press the Reset button. This should force the camera to be turned off.
- Wait a couple of seconds.
- Turn on the camera if it does not turn on automatically.
- As a last resort, disconnect the battery and reconnect again after waiting 30 seconds.

Q. The camera is not recognized as a removable disk.
A. Camera uses generic USB driver. The camera must be connected using a standard USB cable.
Confirm the cable is not defective by attaching another USB device using the same cable. Do not use a USB hub. Try using another USB port.
Defective cables are the most common problems when the camera is not correctly recognized by the PC.

Q. The camera is not recognized by mSetup or Webcam programs.
A. The camera must be in Webcam mode, **not** Removable Disk mode. The camera must be connected using a standard USB cable. Confirm the cable is not defective by attaching another USB device using the same cable. Do not use a USB hub. Try using another USB port. Defective cables are the most common problems when the camera is not correctly recognized by the PC.

Q. An SD card is installed, but the camera is not recognized as a removable disk.
A. If you are sure your USB cable is not defective, then it's possible that the PC USB drivers are not working properly. DriveCleanup.exe (freeware) may be able to fix USB corruption problems.

Q. It is not possible to eject the SD card.
A. Most likely the battery has become swollen and is wedged against the SD card holder preventing removal of the card. Very carefully open the camera holding a finger against the card to prevent it flying out and being lost. Replace the battery.
Q. When the camera is connected as an external disk all the files on the SD card appear as corrupt.
A. There is a problem with your cable or the PC USB drivers are corrupt. DriveCleanup.exe (freeware) may be able to fix USB corruption problems.

Q. The camera does not charge or does not automatically start recording when external power is connected and the 'Auto Record External Power' parameter is set appropriately.
A. External USB power exceeds ~5.25V or is under-powered. Use a quality USB charger adapter can provide at least 2A output stably.

Q. Playback is erratic or stutters or the playback colors are psychedelic or the video flashes, has corrupted blocks.
A. Always first copy the video file from the memory card to your hard drive.
- Your PC or graphics card may not be powerful enough to playback the video stream.
- You may not have enough memory installed in your PC.
- Use VLC Media Player or MPC-HC (Media Player Classic - Home Cinema), or PotPlayer. Windows Media Player often chokes on underpowered machines.
- Psychedelic colors may also indicate problems with the CMOS lens module. Make sure the CMOS lens cable is correctly seated and not cracked.

Q. The camera records video with a different frame rate and/or resolution than defined by the parameter settings.
A. The card's Class rating is too low. If the firmware detects that the card is too slow (class rating too low), it will decrease the recording speed and/or resolution.

Q. The camera functions normally but the video is completely black.
A. Make sure the lens cap is removed.

Q. The camera functions normally but no sound is recorded.
A. Make sure the audio has not been toggled off (see above).

Q. There is a distinctive buzzing or clicking noise when videos are played back.
A. Only use quality micro SD cards with a class rating of U3 or greater. Low quality cards can draw excessive current which may result in electrical noise in the recording.

Q. Why can't I take new videos?
A. The memory card is likely full. You can delete the files (make sure to back up files first) or format it. Or replace it with one with enough space. Or check to see that the memory card is installed correctly.

Q. Why is the image blurry?
A. Camera lens may have dirt or oil. Use a soft cloth or microfiber screen towel to carefully clean the lens.

Q. Why can I connect with Type C to Type C cable for charging or USB connection?
A. Please see Type C USB Interface

Q. I set the camera to record high quality videos in 10 minutes, but I found each file less than 10 minutes. Why?
Your memory card is in FAT32 format which has 4GB file size limit. Please try to format the card in exFAT. The camera can support the file size up to approx. 60GB for cards in exFAT.