# Instruction Manual for the #32 Camera



## Description

The Shutter button is the small button all the way to the front.

The Power button is the larger button, right behind the shutter button.

The Reset button is located under the small pinhole situated between the USB connection and the SD card slot. It can be pressed using the end of a paper clip or similar object. Briefly pressing the reset button will force the camera to stop whatever it is doing and turn off.

The other two buttons are dummy. They have no function.

A new, fully charged battery will record for about 70 minutes, depending on the parameter settings.

You may use any micro SDHC or micro SDXC card but the card must be formatted with FAT32. The camera has a built-in formatting routine (see 'In-Camera Formatting' below) which can do this for you. Slow cards with a low class rating (e.g. class 4) should not be used. Although high capacity cards (e.g. 1TB) will work, there will be many dropped frames especially near the beginning of the recording. Cards with a capacity over 128GB are not recommended. Ideally, cards with a capacity of 32GB should be used.

►This manual does not cover replacing the internal battery or lens.

## Cables

The camera requires a standard Mini USB cable for charging, connecting to external battery packs for continuous recording and for connecting to the PC as an external disk or webcam.

You must under no circumstances use any other "special" cable, especially the "special" cable supplied with the #11 (very, very old camera). Doing so will destroy your camera. So, do not use a #11 "*special*" cable under any circumstances.

## Before you start

Before using the camera for the first time, ensure it is fully charged. See below under "Charging".

## LED status indicators

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

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

☼ Slowly flashing Yellow (1 sec. On, 1 sec. Off) - The camera is in Video Mode 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 and is on standby.

☼ One Red flash - The camera has taken a picture.

○ Steady Green - The battery is charging.

## Connecting the camera to the PC

Always connect the camera directly to the PC. Avoid using a USB hub.

► The camera will turn on automatically and connect as an external drive.

## Charging

Connect one end of the supplied standard USB cable to the camera.

Connect the other end to a USB, 5V DC power source (wall charger, PC or external battery).

When charging, the green LED will be on.

When charging is finished, the green LED will be off.

► The camera will automatically turn ON when you connect it to external power. In this case the green LED may be obscured by the other LEDs. If any other LEDs are on, turn the camera OFF by long-pressing the Power button to ensure correct charging and a clear view of the green LED.

► Charging takes about 65 minutes for a fully discharged battery with the camera turned off and connected to an external USB Charger. Batteries are not covered under warranty. If charged with under-rated chargers or by using a USB hub without an additional power supply, expect longer charging times. For optimum results, the charging voltage should be +5V under load. Only use quality chargers capable of supplying 1000mA (1A) and a stable voltage of at least 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.

## Formatting

Standard formatting tools provided by the operating system are not always reliable. Also, they do not optimize the SD card's performance. For optimal card performance it is recommended to always use the camera's built-in formatter. Instructions for In-Camera Formatting are outlined below under "In-Camera Formatting". Another excellent formatting utility is "SD Formatter" which can be downloaded from https://www.sdcard.org/downloads/formatter/. This utility has been specifically designed for formatting SD cards.

►SD Formatterl will always format cards with a capacity over 32GB to exFAT. This format is not supported by the camera so the card will have to be re-formatted by using the "In-Camera Formatting" method.

## Automatic Power Off from Standby mode

If the camera is in Standby mode (Video mode or Photo Mode) you must take a picture(s) or start a video recording within *30 seconds. The camera will automatically turn off after *30 seconds of no activity.

*This value can be set using the setup program or configuration file. Power-Off Standby can also disabled.

If the camera is used for monitoring only, for example fpv, it is imperative to ensure that Power-Off Standby is disabled in order to prevent signal loss when Standby times out.

## Turn on Camera

Briefly press the Power button. Depending on which 'Power On Default' Mode has been configured, either the Yellow (Video Mode) or the Red (Photo Mode) LED will turn on.

- If the camera has been configured with 'Power On - Auto Record' set to **Off** (default), the camera will enter Standby Mode.
- If the camera has been configured with 'Power On - Auto Record' set to **On**, the camera will begin recording automatically. Depending on the configuration, this may be a video, a single photo, or time-lapse photos.
- If the camera has been configured with "Motion Detect" set to ON, the camera will start to record as soon as motion is detected.
- 'Auto Record' and 'Motion Detect' are conflicting values. They should not be used together.

## Turn off Camera

Press and hold the Power Button for about 3-5 secs. The red LED will blink 3 times before the camera turns off. Note: If the camera is recording, the recording should first be stopped (see below).

## Switching between Video and Photo Standby modes

The camera can be switched between Video Standby and Photo Standby by briefly pressing the power button. When the camera is in Video Standby, the Yellow LED will be on. When the camera is in Camera Standby, the Red LED will be on.

## Recording Video (from Video standby mode, Yellow LED is on)

►The LED will remain off if the recording Indicator has been disabled in the camera's configuration.
   **Start video recording.**

- Briefly press the shutter button. The yellow LED will slowly flash at 2 second intervals.

   **Stop video recording.**

- Briefly press the shutter button. The yellow LED will stop flashing.

## Taking a Photo (from Photo standby mode, Red LED is on)

►The LED will remain off if the recording Indicator has been disabled in the camera's configuration.

- Briefly press the shutter button. The red LED turns off while the picture is taken and then turns back on.
- If Time-Lapse photo has been configured, the camera will continue to take pictures until the shutter button is pressed. The red LED will flash each time a picture is taken.

## Webcam Mode

There are two methods with which you can enter Webcam Mode.
**Method 1:**

- Remove the flash memory card.
- Connect the camera to the PC using a standard USB cable.
- The yellow LED will turn on and the red LED will blink

- ► If this is the first time you have connected the camera in WebCam mode, Windows will automatically install the required drivers.
- The camera is now in Webcam mode.
- Start your favorite WebCam software, such as AMCap (vers 9.23 or above). If your screen is black, the software is not configured correctly or is not compatible with the driver. Make sure the program shows the "UVC CAMERA" as the "device" selected for video capture. If this option does not show in the "device" option list, restart the webcam program and check again.
- There is no audio available in Webcam mode.

**Method 2:**

- While the camera is connected to the PC as an external drive, briefly press the Shutter button.

- ► If this is the first time you have connected the camera in WebCam mode, Windows will automatically install the required drivers.
- The camera is now in Webcam mode.
- Start your favorite WebCam software, such as AMCap (vers 9.23 or above). If your screen is black, the software is not configured correctly or is not compatible with the driver. Make sure the program shows the "UVC CAMERA" as the "device" selected for video capture. If this option does not show in the "device" option list, restart the webcam program and check again.
- There is no audio available in Webcam mode.

## Removable Disk Mode

- Make sure a memory card is inserted.
- Connect the camera to the PC using a standard USB cable. The green LED may turn on indicating that the battery is charging.
- Assuming the camera is turned off, the Red LED will turn on when the camera is connected. The Green LED may also be on, indicating that the battery is charging.
- The camera is now in Disk Mode and a new removable drive should be available on your computer. This may take up to 30 seconds.
- ► If the Red LED is blinking then there is a problem with the card. The most likely cause is an incorrectly formatted card. The card must be formated with FAT32. See 'In-Camera Formatting' below.
- ► Never access the camera from two programs at the same time. For example, never view a file on the card at the same time you are copying it or another file. Doing so will likely corrupt the file being accessed.
- ► You may also turn on the camera before connecting to the PC. Depending on which Mode was selected, either the Yellow or the Red LED will remain on.

## In-Camera Formatting
The Camera contains a built-in formatter which may be used to format the SD card.

- Connect the Camera as a Removable disk (see above).
- Press and **hold down the Shutter button. DO NOT RELEASE the button**.
- Disconnect the camera from the computer.
- Once the Yellow LED begins to blink, release the Shutter button.
- Briefly press the Shutter button **twice** to confirm the card should be formatted -
- --- OR briefly press the Power button to **cancel** formatting.
- ► The Yellow LED will blink fast while the card is formatted. The time to format the card will vary depending on the size of the card but will normally only take a few seconds.

## Camera Setup (Configuration)

On Windows it is recommended to always use the Windows program mSetup.exe which supports all the Mobius ActionCams as well as the original #16. It is also possible to manually edit the 'tl808config.txt' file which is located in the root folder of the card. You can use any ASCII editor, for example Notepad, to modify the parameters. The 'tl808config.txt' must be saved in plain ASCII, it must not be saved in Unicode. If you don't know what a root folder is, or you don't know what ASCII is or don't know how to manually edit ASCII files please only use mSetup.

A 'tl808config.txt' file is automatically generated by the Camera and will be placed in the card's root directory. The camera's parameters are self explanatory. It is important not to change the sequence of the square brackets and not set an invalid value. If you enter invalid combinations or values, the Camera will not perform as expected and will possibly lock-up. It is much safer to use the setup program which will always configure the camera correctly.

The 'tl808config.txt' file can be automatically generated/saved as follows:

1. Disconnect the camera from the PC and turn it off.
2. **Press and Hold Down the Shutter button. DO NOT RELEASE the button until step 6.**
3. Press the **Power button** and **KEEP IT PRESSED**. The **Red LED** will turn on.
4. After a second or two the LED will start to blink.
5. **Wait** until the **Red LED turns off**. This will take about 4 seconds.
6. **Release the Power and Shutter button**.

The modified parameters are saved to the camera using exactly the same sequence (1. - 6.) as shown above. Once completed, the 'tl808config.txt' file will be deleted from the card's root folder.

## Using Software to configure the camera

mSetup.exe (requires Windows XP and above) will automatically configure the camera with the parameters you require. Detailed instructions can be found in the program by clicking the "Help" button.

Users are encouraged to use mSetup.exe, instead of the manual method using 'tl808config.txt', which will configure the whole range of Mobius cameras including the original #16.

## Firmware Update

Normally, there is no need to update the firmware. You should only update the firmware if you are having problems with the current firmware or the new firmware provides functionality you require that are not available in your current version.

*The latest firmware version can be downloaded and installed directly from the setup program* or installed manually by downloading the firmware file from https://www.rcgroups.com/forums/showpost.php?p=46121919&postcount=3.

### Automatic Firmware Update

Use mSetup (Tools) to automatically update the firmware. This is by far the easiest method.

**Manual Firmware Update**

When downloaded, the firmware files are compressed in a .zip file. They must first be unzipped by using a suitable program (e.g. 7Zip.exe). There are usually four files in the .zip archive.

- Copy the new firmware file(s) into the camera's flash card root folder. This can be done with the card in the camera connected to the computer as a Removable Drive, or externally in a card reader. Note: The firmware file name(s) must **never** be changed.
- Disconnect the camera from the computer and make sure it is turned off.
- Insert the flash card containing the new firmware file into the camera (if not already in the camera).
- Reconnect the camera.
- The Yellow LED will turn on and start to blink, indicating the firmware is being updated. **DO NOT press any button** until the camera reconnects as a removable drive.
- When the firmware is fully installed the camera will connect as a removable drive.
- The camera is now ready for use and has the update firmware loaded.

►It is also possible to copy the files to the card and then turn on the camera without it being connected to the computer or external power. This is not recommended because of the danger of having a weak or almost discharged battery. If the camera turns off during the update process the firmware will be corrupted and it may not be possible to turn on the camera.

## Recording using an external power supply

It is possible to charge the battery and record at the same time using a standard external USB 5V DC power supply. The power supply may be mains driven (normal household wall plug), or run off batteries, including the car charger USB plug (optional accessory) and cable supplied with the camera.

External USB power supplies usually only use the +5V and the - (Ground/Earth) wires. The 2 data wires are normally not used. However, some USB power supplies designed for a specific USB device may use different wiring schemes and thus may not work with this camera. To avoid possible problems, always use a generic power supply.

When turned on, the camera checks for an electric signal on the two Data wires. If a signal is found, the camera assumes it is connected to a PC and recording will not be possible.

For recording video or taking pictures using a standard external power supply connection, the USB power supply can be connected at any time, i.e. before the camera is turned on, before the recording is started, or after the recording has been started.

## AE Lock (Auto Exposure Lock) / AWB Lock (Auto White Balance Lock)

AE Lock (AEL) and AWB Lock (AWBL) are advanced functions first implemented in firmware version v1.00.19. Their **functionality is disabled by default**.

AEL and/or AWBL functionality **must be explicitly enabled in the settings parameters**. AWBL functionality requires the White Balance parameter to be set to 'Auto'.

AE/AWB can be locked while the camera is either in standby mode or recording mode.

To enable AEL/AWBL point the camera at the object you want to correctly exposure and then set the lock as follows:

- If the camera is in Standby mode, press the Shutter button for about 3 seconds until the red LED blinks. Now release the Shutter button. AEL/AWBL has been set.
- If the camera is recording and the Recording Indicator parameter is set to On: Press the Shutter button for 3 seconds until the red LED blinks. Now release the Shutter button. AEL/AWBL has been set.
- If the camera is recording and the Recording Indicator parameter is set to Off: Press the Shutter button for 3 seconds until the red LED blinks. Now release the Shutter button. AEL/AWBL has been set.

AEL/AWBL can be disabled as follows:

- Press the Shutter button to stop the recording and then press the Power button to switch to a different recording Mode. Tip: Slowly press the Power button twice to cycle back to the original Mode.
- AEL/AWBL will be automatically reset when the camera is turned off.
- ► *You **must** change modes or turn the camera off in order to disable the AE/AWB lock.*

## Trouble shooting

Q. The camera is not recognized as a removable disk or as a Webcam.
A. The operating system must be XP or greater. The camera must be connected using a standard USB cable. Confirm that 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. When the camera is turned on the Red LED flashes quickly. Depending on the 'Power On Default' mode setting, the yellow LED will be on or off. After 30 seconds the camera turns off.
A. There is no micro SD card inserted, the card is not properly inserted, the card is full or the card is defective. The card must be inserted with the gold contacts facing upwards, towards the buttons. There should be a distinct spring action when inserting the last 5 mm and there should be no friction whatsoever.
When the card is pushed 1 mm inside the body the card should latch with a distinctive click.
Never force the card, and never push the card more than max. 1 mm into the camera body. Sometimes the card holder metal frame is not positioned properly in the body and is clearly visible in the card slot. If this is the case, insert the card above (on the button side) of the visible metal frame.

Q. The yellow LED turns on and the camera appears to function normally. However, when I press the Shutter button the red LED blinks quickly. After 30 seconds the camera turns off.
A. The card has a capacity greater than 32GB but is not formatted with FAT32. All cards must be formatted with FAT32. See 'In-Camera Formatting" above.

Q1. After I turn the camera on it immediately turns off (the red LED may also blink 3 times - see "LED status indicators").
Q2. When I press the shutter button to take a picture or make a video, the camera reacts normally, but after about 30 seconds the camera turns off (the red LED may also blink 3 times - see "LED status indicators").
Q3. When I press the shutter button to take a picture, the red LED is on as normal, but I can also see the yellow LED flashing at the same time. After about 30 seconds the camera turns off (the red LED may also blink 3 times - see "LED status indicators").
A. This indicates that the SD card is full or data on the SD card is not as expected. Maybe the card was previously used in another device. Format the card and try again. If this fails, try another card.

Q. The camera does not react. The Green LED may be on or off. The Yellow and Red LEDs may also be on or off.
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 10 seconds.
- Turn on the camera.
- As a last resort, disconnect the battery and reconnect again after waiting 30 seconds.

Q. With or without an inserted card, the camera does not react. The LEDs may be on or off.
A. This can happen when a firmware file was not updated correctly. The camera will also no longer react to button presses.

- Remove the card from the camera and use a paper clip or similar instrument to briefly press the reset button.
- Using a card reader or another camera connected as a removable device, copy a known good firmware file(s) to the card.
- Insert the card into the defective camera. DO NOT turn it on.
- Connect the camera to a PC or an external power unit.
- The yellow LED should flash quickly for a few seconds while the firmware is updated. Do not press any buttons during the update process.
- If connected to a PC, the camera will connect as an external drive when the update process is complete.
- If connected to an external power supply, the camera will turn on.

Q. Playback is erratic or stutters or the playback colors are psychedelic or the video flashes, has corrupted blocks etc.
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.  Window 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. The lens cable is very fragile.

## Getting Help

The Mobius line of cameras are the best supported camera of it's kind. In case of problems or questions your first stop should be a visit to: https://www.rcgroups.com/forums/showthread.php?3785927-The-Original-32-Camera-Support-Thread-(Read-Posts-1-5-BEFORE-POSTING!)&perpage=100. This thread is dedicated to questions related to the #32 camera. It should be noted that the forum is for aerial RC discussions only, so please avoid post anything off-topic. The first 5 posts contain links to all the important information, including a list of sources where you can buy this camera. ONLY buy from the sources listed. It is very probable that other sources will offer fake copies. These copies are NOT original and will NOT perform as expected.