

Simple Instructions for 808 HD Car Key Micro Camera (#16)

Thank you for your purchase of our 808 Car Key Micro-camera (#16). If this is the first time you are using a product of this kind, please follow the simple instructions. We believe you will love this little gadget once you get to know how it works and discover the amazing video quality that such a tiny camera can produce.

How the #16 808 HD Car Key Micro Camera originated

In 2010 Tom Frank created a thread, <http://www.rcgroups.com/forums/showthread.php?t=1362692>, in the RC Groups which was dedicated to information exchange and sample videos relating to the very popular #11 camera and RC planes. This thread was so successful and full of tips and ideas for improvements that we decided to design the #16 based on what users would like to see improved.

During development of the new camera, Tom was extremely helpful in suggesting improvements in the new design and did extensive testing of the prototype model.

We are more than grateful for his on-going generous help and support, but would also like to thank the many users in the forum (it would be a long list) who provided comments about possible improvements and have helped others.

Tom has now started a new thread dedicated to the new model, the #16. You will find a lot of helpful information in the thread, and can get help / ideal from other users, web link: <http://www.rcgroups.com/forums/showthread.php?t=1556994>

Note: This is a self-help forum. None of the forum members have been sponsored by the manufacturer or sellers of this camera. Links in this manual are provided with permission from the authors.

Specifications:

- 1/4" CMOS WXGA HD Sensor / H.264/AVC1 DSP / Hynix 512M DDR2 / Built in Audio Codec
- Built in Rechargeable LIPO Battery (200mah), with Battery Charger Manage IC
- Video: 1280 x 720 HD, 30FPS, optional 848 x 480 30FPS; 640 x 480 30FPS
- Video Format: .MOV (and optional .AVI)
- Photo: JPG 1280*960
- Snap Photo: JPG 1280*720
- Supports up to 32GB micro SD / SDHC memory cards
- Supports various user settings through configuration tool.
- Supports in-camera formatting
- Supports updating firmware when it's available
- USB2.0 (MSDC/PCCAM)
- Buttons: Power / Shutter / Reset
- Indicator LED Light: Green / Red / Yellow



Memory Card:

1. This camera has no built in memory. It needs an extra micro SD memory card (**Not included in the camera**) to work. The camera supports up to 32GB micro SDHC card. Class 4 or above is recommended.
2. The micro SD / SDHC card, also called TF card, is 15mm x 11mm in size and has 8 pins. It is commonly used in cell phones, digital cameras, media players and USB flash disk, etc.
3. Insert the TF card into the TF card slot. Please make sure the side with the 8 gold pins is inserted upwards, with the pins facing the buttons. Use your fingernail to push the card in until you hear a “click”. The card should then be securely latched.
4. Removing the TF card: Push the TF card inwards about 1 mm using your fingernail. This will release the spring latch and the TF card will be ejected.

Charging:

1. Please charge the camera before using it for the first time.
2. Connect the camera using the USB cable to your computer or use a generic USB charger for charging.
3. Charging time is approx. 2.5 hours. The green indicator light is on when charging and off when fully charged.

Video Recording:

1. Make sure the TF card is correctly inserted.
2. Press and hold the Power button approx. 2 secs. until the yellow indicator light turns on. The camera is now turned on and is in video recording standby mode. Yellow light on = video recording standby.
3. Briefly press the “Shutter” button. The yellow indicator light flashes three times and then turns off. Video recording has started.
4. Press the “Shutter” button again, and the yellow indicator light will turn on. The video recording stops and the video file is saved.
5. If you briefly press the Power button during video recording, you will take a snapshot (photo).
6. Press and hold the Power button for about 3 seconds. The red light flashes 3 times and the camera is turned off.

Taking Pictures:

1. Make sure the TF card is correctly inserted.
2. Press and hold the Power button approx 2 secs. until the yellow indicator light turns on. The camera is now turned on and is in video recording standby mode. Press the Power button again, and the red light will turn on indicating that the camera is in photo standby mode. Red light on = Photo standby mode.
3. Briefly press the Shutter button, the yellow indicator light flashes. One photo is taken and the file is saved. Continue to press the “Shutter” button to take and save more photos.
4. Briefly press the Power button to return to video recording standby mode.

How to Connect with Computer / Removable Disk Mode

1. The camera is Plug and Play and will work on most computer systems. There is no need to install any drivers.
2. Connect the camera, with memory card inserted, to your computer using a standard USB cable. Press and hold the power button for around 2 seconds. The camera will be recognized by the computer as a Removable Disk.
3. It is recommended to move or copy the files from the camera onto the hard drive for editing, viewing etc.
Note: The red LED will flash during data transfer.
4. If the camera is already turned on and in standby mode, it will enter into removable disk mode when connected to the computer.
5. If the camera is already turned on and is recording video, it will continue to record using USB power and at the same time will also charge the battery.

PC Camera (Webcam) Mode

1. The camera is Plug and Play and will work on most computer systems. There is no need to install any drivers.
2. Remove the memory card from the camera.
3. Turn the camera on before or after connecting it to the computer. Wait a few seconds, the computer system will recognize the camera as a USB PC Camera.
4. You will need a webcam program, such as AMCAP, or another program that can stream video from an external device. Many video editing programs and online “messaging“ utilities also have this capability. If you see no video from the camera in your program, check the program's list of “devices” and confirm the “USB PC Camera” device is selected. If the “USB PC Camera” device does not appear in the list of devices, leave the camera in webcam mode and restart the program. The “USB PC Camera” device should now show up as a device, and you can select it to enable the video stream. **Note: there is no audio when this camera using as a webcam.**

Recording Videos while Charging

1. This camera supports recording videos while charging, which enables you to record long videos by using an external power source.
2. The camera will work with any standard USB DC 5V output power source, such as USB car charger, USB wall charger, external power pack with USB output or USB computer port.
3. When using the USB computer port, video recording has to be started before connecting the camera to the computer. When using an external charger or power pack, video recording can be started before or after connecting the power source to the camera. Any standard USB data cable may be used, a special cable is not needed.

In-Camera Formatting

This camera supports in-camera formatting. The camera will work with various micro SD / SDHC memory cards formatted as FAT32. To avoid any possible memory card compatibility issue, it's strongly recommended to use in-camera formatting to format memory cards. The procedure as below,

1. Connect the Camera as a Removable disk.
2. Press and hold Shutter button. DO NOT RELEASE the button.
3. Disconnect the camera from the computer.
4. Keep holding shutter button until indicator light flashes and then turns off, indicating that formatting is completed. This will take approx 5 seconds.

Updating Firmware

When needed, or a new firmware version is available, you can update the firmware as follows:

1. Obtain the firmware from your seller, or download the latest firmware version from Tom Frank's #16 forum: <http://www.rcgroups.com/forums/showthread.php?t=1556994>
2. Copy the new firmware file (FWMICDVR.bin) to the root folder of the memory card.
3. Disconnect the camera from the computer. The camera will turn off.
4. Briefly Press the power button, and the yellow indicator light will flash very fast.
Note: DO NOT keep the power button pressed. Press the button as if you were turning the camera on.
5. When the yellow light stops flashing, the process is complete. **Don't press any button during this process.**
6. You will need to delete the firmware file using a card reader.
7. Or, you can remove the memory card from the camera, and then turn the camera on, and put the memory card back in, and then connect the camera to the computer. The computer will show the camera as a removable disk. You can now delete the firmware file from card.

Camera Settings Configuration Tool

This camera supports various user settings through a configuration tool. You will be able to modify the following settings:

1. Set correct Date and time;
2. Set movie resolutions: 720P 30fps; WVGA 848 x 480 30fps; VGA 640 x 480 30fps
3. Movie cycle time (movie clip length): 5 minutes, 20 minutes, 40 minutes, 70 minutes
4. Loop recording: default is off. You can turn it on when needed.

Important notice: it keeps recording 5 minutes videos, and when the memory card is full, camera will delete the oldest files and record new videos. Warning: loop recording will delete the oldest video files. Please back up your important video files before using this option. Deleted files are not recoverable.

5. Date / time stamp: default is on, you can turn it off when needed.
6. Movie sound: mute, level 1, level 2, level 3
7. Recording LED indicator: default is off, which is secret mode. There is no indicator light while recording video. If you turn the indicator on, the yellow light will flash every second during video recording.
8. Movie data rate: 7Mbps / 10Mbps
9. Auto Power off when there is no operation in standby mode: you can set 30 seconds, 1 minutes, 2 minutes, or disable auto power off.

Please follow the procedure below to read the existing settings file from the camera:

1. Insert a microSD card into the camera.
2. Press and hold the shutter button, don't release it.
3. Press the power button for about 1 second and release it.
4. Release the shutter button when the light turns off. Done

A new SYSCFG.txt file has been written in the root directory of the camera. It is a plain text file. Please use a plain text editor like Windows notepad to edit the file. The file contains all the settings the camera is currently using. You can manually change the settings in the [] and then save the file back to the same root directory.

1. Disconnect the camera from the computer. Make sure the card is inserted and contains the SYSCFG.txt file in the root directory;
2. Press and hold the shutter button, don't release it.
3. Press the power button for about 1 second and release it.
4. Release the shutter button when the light turns off. Done

The camera will accept the changes and automatically delete the file.

You may find it difficult to adjust the settings manually. We have great news: Isoprop, a member of Tom's RC forum, has developed a great Windows GUI setup program which does all the hard work for you. His amazing program also includes very detailed instructions of how to use the program and this camera. You can download the program from the #16 forum:

<http://www.rcgroups.com/forums/showthread.php?t=1556994>

or at the website:

<http://www.mytempfiles.info/nr16/index.html>

How to open the Plastic Case and remove the PCB board

Note: Please don't do this unless you have to change the battery or lens/sensor module.



(1) Note the two latches inside the case.

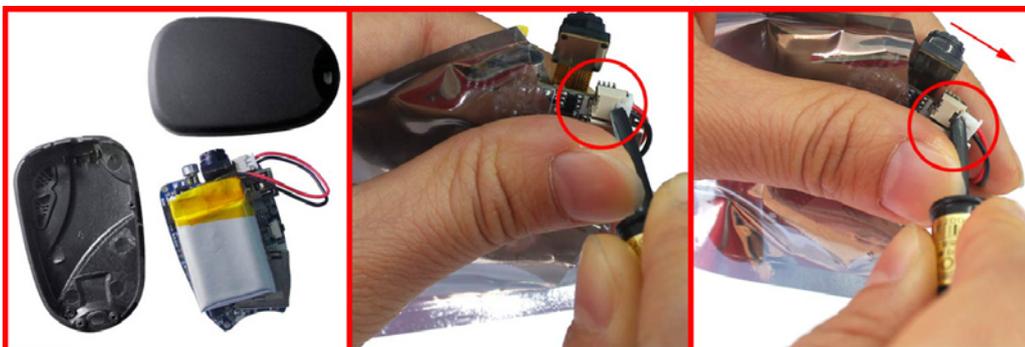
(2) Unscrew the two screws at the keychain end. (3) Gently lift the bottom casing where the screws were inserted about 6 mm and then (4) very gently slide the bottom casing forward (see picture) to avoid breaking the latches. The two halves will now be separated. (5) Unscrew the 3 screws and remove the board. Always handle the board by the edges only, and for extra protection, wrap the exposed circuit board components with tape so your fingers do not accidentally bridge circuit components during handling or cause a damaging static discharge.



How to Change the Battery

Note: Please don't do this unless the battery or lens assembly needs replacement.

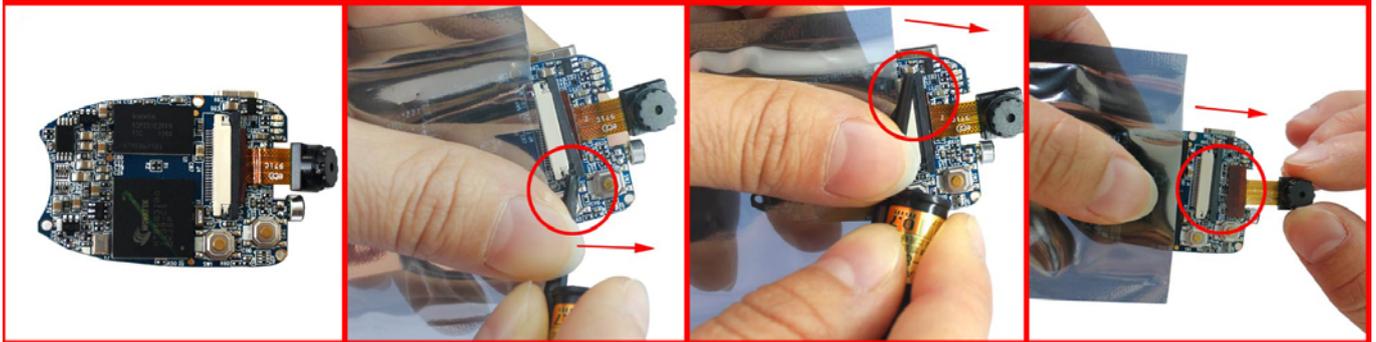
(1) Open the case and remove the PCB board as described above. (2,3) Now follow the picture sequence outlined below. Use a wooden toothpick or similar plastic tool to "wiggle" the plug out of the socket. **Do not use a metallic tool for doing this or you might cause a damaging short circuit. (in the photos, a simple ball pen cap is used.)** Gently pry the plug out of the socket by repeatedly wedging the toothpick in the left and the right corners between plug and socket. **Do not use brute force or pull on the wires!**



How to Change the lens/sensor module

Note: Please don't do this unless the camera module is damaged or needs a replacement or upgrade.

(1) Open the case and remove the PCB board and **disconnect the battery** as described above. (2-4) Now follow the picture sequence outlined below. The connector must first be "unlocked" by prying the black retention bar forwards in the direction of the arrow. Use a wooden toothpick or similar plastic tool inserted at one of the corners (2) **(in the photos, a simple ball pen cap is used.)** and gently pry the black retention bar forwards. Repeat at the other corner (3). Once "unlocked" the cable can be gently slid off the connector. **Never use brute force or pull on the CMOS module or ribbon cable.** Before replacing the module, ensure the connector is "unlocked", then gently work the connector back into position and "relock" the retention bar.



Trouble shooting

1. Yellow indicator light flashes when the camera is turned on, and then turns off.
 - ➔ Memory card is full. No valid memory card detected. Micro SD card is not inserted, or not seated correctly. Ensure the card is locked in place. The memory card may also be defective or not formatted correctly. Please format the card with the SDFormatter utility or In-Camera Formatting (see above). Try another card.
2. Cameras works abnormally.
 - ➔ Use a paper clip, staple, pin, or similar object to carefully press the Reset button on the side of the camera.
3. Red indicator light flashes when the camera is turned on, and then turns off.
 - ➔ Battery is running low, please charge the camera.
4. Sometimes I got **corrupt video** with buzzing sound, how to correct it?
 - ➔ Don't panic. A beta version of firmware (compiled by new generation of source codes) might be installed in the camera. The firmware got better color quality, but may not work with some memory cards well. Please format the memory card by in-camera formatting as above, most likely it can solve the problem. If still no luck, contact your seller for a stable firmware. Of course you can find it in Tom's #16 forum as well.