



AM-M81



USER MANUAL

Please Register Your AM-M81

www.amacam.net/product-registration

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1. PACKAGE CONTENTS

- Camera – Note that the camera requires a micro SD memory card, which is not supplied with the camera. (See Section 4.1 Below)
- Mounting Bracket for car windscreen. This houses the GPS Tracker, (if fitted), and has the 3M sticker affixed



- Charging lead with adapter for use in car (Cigarette lighter to Mini-USB cable)
- Connection lead for computer (Mini USB to USB Cable)
- User Manual

2. OVERVIEW

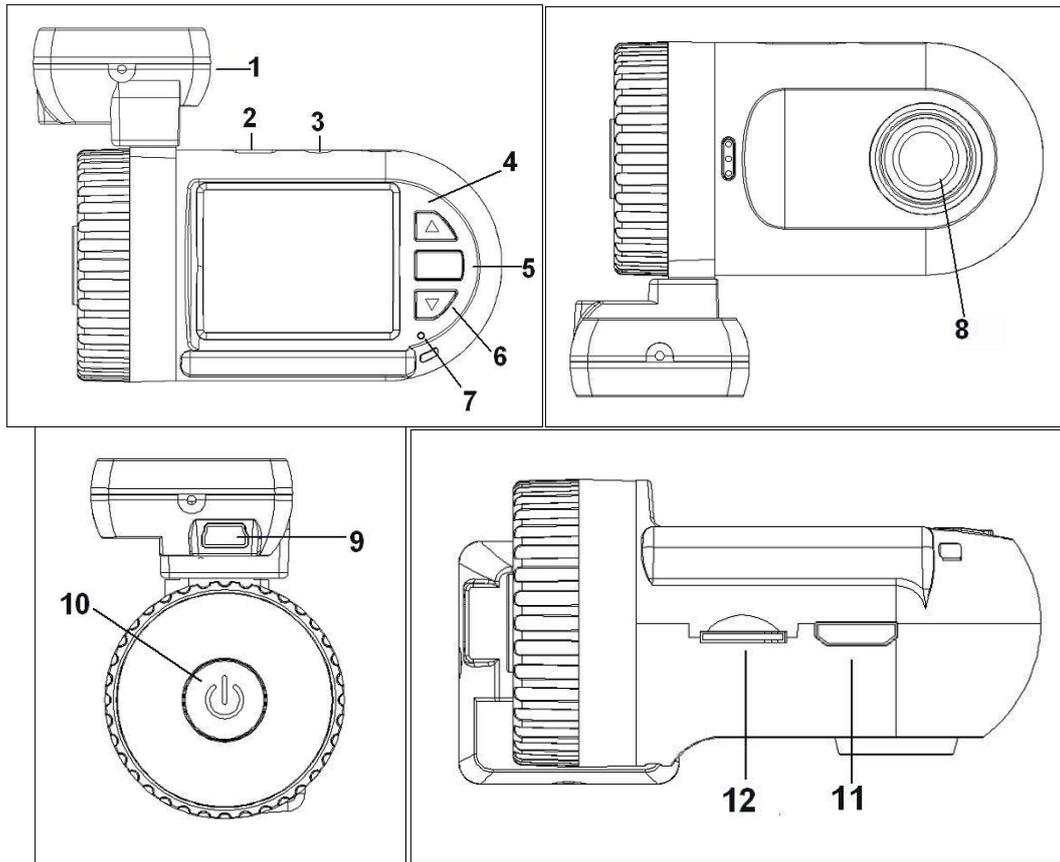
The Amacam AM-M81 camera is designed primarily as a small video camera for mounting on the front or rear windscreen of a car. This is for the purpose of recording the car movements and external activities, and would be of use in providing evidence for Insurance purposes. It is designed in this mode to start recording as soon as the car ignition is switched on.

In addition it can be used for short periods hand held outside the car, but the battery life in this instance is limited to approximately 40 minutes of recording before being reconnected to the car or a charger for recharging.

The camera may also be used to take still photos as a manual operation.

The video or still pictures recorded can be reviewed on the inbuilt small screen, or the camera can be connected to a PC computer for review of all photos and videos taken.

3. DIAGRAM OF CAMERA



Key

<p>1. Bracket for mounting, housing GPS Tracker (if fitted)</p> <p>2. USB Port on camera, for charging or connection to computer</p> <p>3. AV out (3.5mm jack)</p> <p>4. Menu/ UP Button ▲</p> <p>5. OK Key</p> <p>6. Playback/DOWN Button ▼</p>	<p>7. Indicator light</p> <p>8. Lens</p> <p>9. USB Port for charging only</p> <p>10. POWER Button</p> <p>11. HDMI Port</p> <p>12. Slot for Micro SD-TF memory card</p>
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4. SCREEN ICONS

The following icons are used on screen to indicate the camera status, activity or set up.

	Video Mode		Recording Mode
	Camera Mode		Take a picture
	Supply light(off)		Battery state
	SD-TF Card Inserted		Motion Detection
V:-----KM/H	Car speed monitor based on GPS positioning.		White Balance (Auto)
	USB connecting		Protected file
FULL HD / 1080P/720P	Resolution	2008/01/01 01 : 07AM	Date and Time Display
	loop recording time (1 min)		GPS (if installed)

5. INDICATOR LIGHT

The indicator light (7) will indicate the status of the camera as follows

Solid Red and Blue	----	stand-by / not recording / charging
Solid Blue	-----	stand by / battery not charging
Solid Red	-----	Power Off / battery charging
Flashing Red and Blue	-----	Recording / Battery Charging
Flashing Blue	-----	Recording / Battery charged

If the indicator light will not illuminate, even when the power button is pressed, the internal battery is completely discharged and the camera needs to be connected to a power supply.

6. BASIC OPERATION

6.1. First set up

Before the camera is used the following actions must be taken. This should be read in conjunction with the Menu Options description in Section of this User Manual.

(Number references below refer to the Diagram and Key in Section 3 of this user manual).

- Insert a Micro SD-TF card into slot (12). Good quality, Speed rating Class 4, 4GB, 8GB, 16GB or 32GB are recommended.
- Switch camera on by pressing Power button (10) once. (See below)
- Set up Time Zone, date and time in settings (See Main Menu Section 7.1 below)
- Set up Loop recording (See Main Menu Section 7.1 below)
- Camera will now operate in default settings mode.

Power Button (10)

The Power button (10) is used to

- switch the camera on (in manual operation)
 - Short press until indicator light illuminates. Release and wait for a few seconds for the screen to turn on.
- switch the camera off
 - Press and hold for at least two seconds, until screen switches off.
- Reset after the camera has crashed or seized up
 - Press and hold the power button for at least 8-10 seconds to reset the camera

6.2. Mounting in the car

- The mounting bracket (1) is fixed to the car windscreen using the 3M adhesive sticker. Peel off the film covering the sticker pad, and then press onto the windscreen in the desired position.
- The camera slides into the connecting position on the mounting bracket.
- The camera can be rotated to any position between 0 and 90° on the mounting ring, to accommodate the slope angle of the car windscreen.
- The charging cable can be permanently connected from the cigarette lighter to the mounting bracket connection (9), allowing the camera to be easily removed from the car when desired. The supplied adapter should be used as this transforms the 12v car supply to 5 volts required by the camera, Use of higher voltages will damage the camera.
- Alternatively the power cable can be hard wired to the mounting bracket, but this requires an auto-electrician to carry out the wiring work. Cables for this are not provided, and a 12v/5v transformer will be required.



6.3. Recording

6.3.1. In car operation

If set up as above with Motion detection set to “ON”, (See Main menu below) the camera will start recording automatically when the ignition is switched on and the car starts to travel. Recording will stop when the car ignition is switched off. (See also ‘Auto Power Off’ in Main Menu)

6.3.2. Hand held Manual operation

Video recording (Video camera depicted in top left)

Switch power on by pressing Power button (10) once.

Camera will turn on in Video mode

If Motion detect is set to ON, the recording will start immediately.

If motion detect is set to OFF, Press OK (5) and release to start recording.

Red indicator light on screen will start to flash

Press OK (5) again to stop recording.

Take still photos.

To take still pictures whilst in Standby mode press and hold the OK button (5) until the photo has been taken. The camera icon will appear in top left corner of screen whilst still photo is being taken.

Still photos can be taken during video recording by pressing and holding the OK button (5) during the recording. Recording will continue after photo has been taken.

6.4. **Play back**

Play back or review of the video files and photos may be carried out either on the camera or by connecting the camera to a computer.

6.4.1. To review on the computer

See Section 12.4 (Connecting to the computer) below.

6.4.2. To review files on the camera

- Turn the camera on by pressing the Power button (11)
- Press and hold the DOWN (6) button until the screen changes a selection of MOVIE files appears.
- Press and hold DOWN button again to access the selection of PHOTO files of still pictures taken.
- Press and Hold Down button to return to Video or Standby mode

- Whilst in either MOVIE selection or PHOTO selection screen, use the UP and DOWN buttons to scroll between files. The file number appears at bottom of screen
- to view selected file, Press OK (5). Use OK button to play and pause during the playback.
- To return to file selection screen, to choose an alternative file, press and hold DOWN button

6.4.3. To delete files

1. To delete all files

- Whilst in Playback mode (either MOVIE or PHOTO selection screens), press and hold the UP (4) button to access the Playback Menu. (See section)
- Select DELETE file by scrolling with UP (4) and DOWN (6) buttons and use OK (5) button to select.
- Scroll between 'No – Only this – All' using UP (4) and DOWN (6) buttons, and then select with OK (5) button.
- To return to file selection screen Press and Hold UP (4) button.
- Then to return to the Standby mode, press and Hold the Down(6) button.

2. If file has been selected and is being viewed.

- Press and hold the UP (4) button, until the Delete file? screen is shown
- Scroll between 'Yes' and 'No' using UP (4) and DOWN (6) buttons
- Press OK (5) button to select the chosen action.



7. Menu Options

There is one Main Menu, with a short menu in Playback mode.

7.1. Main menu

To access the Main Menu Press and Hold UP (4) button until Main Menu appears.

- Use UP (4) and DOWN (6) buttons to scroll between menu items.
- Select Menu item with OK (5) button.
- Then scroll between Menu sub-items with UP and DOWN buttons
- Set and confirm setting with OK (5) button

See Menus table in 7.3 below

7.2. Playback mode Menu

Whilst in Playback mode (either MOVIE or PHOTO selection screens), press and hold the UP (4) button to access the Playback menu.

- Use UP (4) and DOWN (6) buttons to scroll between menu items.
- Select Menu item with OK (5) button.
- Then scroll between Menu sub-items with UP (4) and DOWN (6) buttons
- Set and confirm setting with OK (5) button

To exit Menu Press and Hold UP (4) button again.

See Menus table in 7.4 below

7.3. MAIN MENU

Item	Sub Menu Choice	Default Setting	Function/Comment
Video Resolution	Full HD, 1920 x 1080 1280 x 1080 1440 x 1080	Full HD	Higher resolution will increase file sizes and recording time on SD card but will enable number plates to be more easily read.
Photo Size	0.9M 2M 3M 4M	4M	This gives the resolution as the number of pixels in the picture
Sharpness	Standard Soft Hard	Standard	This sharpens or softens the contours between tones.
Contrast	Standard Soft Hard	Standard	The contrast refers to the degree of differentiation between darker and lighter elements of the image.
Flicker	Auto 50 Hz 60Hz	50	This should be set to AC Mains frequency in your area.
AE ISO	Auto 100 200 400	Auto	ISO setting represents the sensitivity to light. High ISO settings are more sensitive and useful when in dark or gloomy light. However the images are more noisy, i.e. they show more grain. Low ISO settings are used when there is plenty of light. The pictures will be less noisy, i.e. less grainy and sharper.
White balance	Auto Sunny Cloudy Fluorescent Incandescent	Auto	This adjusts the colour tones according to the ambient light conditions.

Item	Sub Menu Choice	Default Setting	Function/Comment	
AE Bias	-2 -1.7 -1.3 -1.0 -0.7 -0.3 0	0.3 0.7 1.0 1.3 1.7 2	0	This adjusts the EV (Exposure Value) of the photo. For very bright settings like snow or beach, Set a positive bias for EV correction, For very dark scenes use a negative bias for the EV number
AE Meter Mode	Average Centre Spot	Centre		
TV Type	PAL NTSC	PAL	Set this to the TV Transmission System used in your area.	
Auto Power Off	Off 1 min 3 min 5 min	3 MINS	This will turn the camera power off after the set time if there have been no operations	
Time Set up	TZ:YY:MM:DD HH:SS	Manual setting	TZ is the time zone (UTC = 0, EST = -5, Pac. Time = -8). Scroll through the TZ – Y – M – D etc with the OK Button, and at each use the UP (4) and DOWN (6) buttons to set the desired date or time. Use OK (5) Button to set each number and move to next number Return to main menu by scrolling through all settings with OK (5) Button.	
Date Time Display	Off Date Time Date + Time	Date + Time	Sets the style of display on the screen	

Item	Sub Menu Choice	Default Setting	Function/Comment
Loop Setting	Off 1 min 3 min 5 min	1 min	When set to 1, 3 or 5 mins, if the camera is connected to a power supply or charger, the recording will commence as soon as the power is switched on. This also determines the size of files into which the recording is divided. When loop recording is on, the files are progressively recorded over, one file at a time. When loop recording is OFF, recording will not start automatically. Recording will be continuous until file size of 3.6GB is reached (max size) and then a new file will start. When the memory card is full, recording will stop, and there will be a screen display showing the card is full.
Motion Detect	Off On	Off	Will start recording (if not recording already) when motion is detected.
Time Stamp	GPS Data Driver No Off Date Time Date + Time	GPS Data	Sets the style of the display stamped on to the recorded image
Driver No.	9 Digit display	0000000 Manual setting	Sets a driver number or Reg. No of the car. Each number is set using UP (4) and DOWN (6) buttons and fixed with the OK (5) Button.
Power Off Screen	Off 1 min 3 min 5 min	1 min	Turns the screen off after this amount of time, if no activity, but will not stop recording. Press any button to turn screen on again.
Video record mode	Video Video + Audio	Video	Determines the style of recording, with or without an audio track. NOTE: On either setting the audio can be turned on or off by pressing the UP button during recording. An 'Audio OFF' icon will appear on right side of screen when it is switched off.

Item	Sub Menu Choice		Default Setting	Function/Comment
G Sensor precision	Closure	3.5 4 4.5 5	3G	The G Sensor automatically protects a 20 second file when the G Sensor detects a sudden movement, such as in a collision. This setting sets the sensitivity of this detection of the G Sensor
G Sensor calibration	Yes No		No	This switches the G sensor protection off and on.
GPS	Open Close		Open	
Velocity Units	MPH KMH		MPH	Units for Speed of car as determined by GPS
Language	English Russian		English	
Default Settings	Yes No		No	Returns all settings to the factory default settings
Format	Yes No		No	This is used to Format the SD card if necessary. Reformatting the card will delete all data stored.
Firmware Version	FW VER 20140808		FW VER 20140808	Number of the Firmware installed in the camera

7.4. PLAYBACK MENU

Accessed only whilst the camera is in Playback mode. (See 7.2 above)

Item	Sub Menu Choice	Default Setting	Function/Comment
Delete File	No Only This All		For this item, use UP (4) and DOWN (6) buttons to choose between 'No', 'Only this' or 'All' files. Press OK (5) button to delete . No confirmation is requested, be sure that the correct file has been selected. <u>Important Note</u> . Protected files will <u>NOT</u> be deleted using this function.
Protect File	Only This Protect All None No		Files can be protected or unprotected by selecting the appropriate sub menu item. To unprotect a file, select No..
Auto Play	On Off		

Note. This menu is only available if there is a SD card in the camera. If there is no SD card, the message CARD ABSENT will appear on screen.

8. FURTHER OPERATIONS

8.1. Indicator light

Item 15 on the camera is the indicator LED. This will shine BLUE when the camera is switched on. When the battery is charging this light will shine RED, and will not shine at all when the camera is fully charged, or disconnected from the power source. See also Section 5 of this manual.

8.2. External power supply/Charging the battery

The internal battery is charged by connecting the camera through the USB connection socket (6) to any of the following power sources.

- Car lighter socket using the cable supplied
- USB 2.0 socket on a personal computer using the cable supplied
- 240V or 110V Mains to USB adapter plug. This must have a 5v Output. . (Not supplied)

IMPORTANT NOTE. The mains frequency setting in the Main Menu must be set to the correct frequency for the mains supply used.

8.3. Protecting Files

Files may be protected. This will prevent them from being deleted on the camera. Thus when loop recording is being used, protected files will NOT be overwritten.

Files are protected automatically when the G sensor senses an acceleration higher than the setting established in the Set Up menu. Thus if the car is involved in a collision the file will be automatically protected.

Files can be protected manually during recording by making a short press on the DOWN button (6) during recording. All protected files will display the protected file icon on the screen to signify that they are protected.

Protected files can be unprotected by going to the playback menu.

- scroll down to 'Protect File' and press select this option
- then scroll down to 'None' and select by pressing OK (5) button.

This will unprotect **all** protected files on the camera – not only the selected one.

However if the card is reformatted using the main menu item, all files, including protected ones will be deleted.

8.4. Connecting to the computer

The camera can be connected to a computer using the Mini USB/USB cable supplied to a USB 2.0 socket on your computer. When the connection is made from the USB connection on the camera (2) to the computer, immediately the words 'USB Connecting' appear on screen, and the camera cannot be used for recording. Following this all access is through the computer to which the camera is connected.

Note that the mini USB connection (9) on the mounting bracket (1) is only used for charging and will not function for accessing the files through a computer.

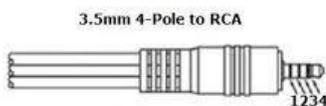
File protection does not apply on the computer and files can be viewed or deleted as required.

8.5. Connecting to the TV

The camera can be connected to a TV to allow the files to be viewed on the TV screen.

There are two ways to connect this.

- a. Using the mini HDMI out socket (1) on the camera.
- b. Using the 3.5 mm AV out socket (5) by using a suitable cable adaptor as illustrated.
(This cable is not supplied with the camera)



1	2	3	4
Right	Ground	Video	Left



8.6. System reset

To reset the camera to the factory default settings, go to the “Main menu” by pressing the UP(4) button, and then scroll down to ‘Default Settings’ item. Press OK (5) and then scroll to YES, and select with OK (5) button. The screen will then display “Press OK Button to Reboot system”. After pressing OK button, the camera will switch off and will need to be turned on again with Power (10) button.

9. Specification

Model	Amacam AM-M81
*Size	70 x 40 x 40 mm
*Weight	55.2 gms
Processor	Ambarella solutions, 1080 P30FPS
Image Sensor	OV2710, 2.0 Megapixel sensor
*Viewing Angle	120 degrees
Lens	4x Fixed focus
LCD Screen	1.5” TFT Display
Video Format	H264 (MOV)
Video resolution	1920x1080 30fps, 1440x1080 30fps, 1280x720 30 fps
Photo format	JPEG (EXIF2.2), DCF
Image Resolution	0.9M, 2M, 3M (Software), 4M (Software)
Audio	Built in Microphone/Speaker
Memory	Micro SD/TF Card, Class 4, - 4 GB, 8 GB, 16 GB or 32 GB. (Not included)
USB Interface	USB2.0
AV Out	3.5 mm Mini jack or HDMI – NTSC or PAL format
Battery capacity	Built in Polymer 3.7V 350 mAH
Charger Time	3 hours
Operating temp.	-10°C to 60°C
Storage temperature	-20°C to 70°C
GPS Module	GPS Logger
ISO	Auto
Exposure compensation	-2.0 to +2.0 EV
Loop recording	Off, 1, 3, 5, mins
Auto power off	Off, 1, 3, 5, mins
Auto screen off	Off, 1, 3, 5, mins

10. GPS

➤ **GPS**

When the AM-M81 is turned on, search for the satellite with start automatically. Once the GPS signal is located, it will show on the display, track your route and record it. This will be saved in the GPS file on the TF card.

➤ **Vehicle Speed**

The speed of the vehicle will be displayed on screen MP/H or KM/H. (Depending on model)

➤ **Google Maps**

The AM-M81 has Google Maps installed and will allow you to see the vehicles route being tracked with the speed of the vehicle and the G-Sensor information.

11. Trouble Shooting

➤ **Camera will not record a video or take picture.**

Check whether the SD/TF card is locked, and make sure the card has enough memory available.

➤ **Stopped automatically while recording**

HD Video results in very large files, Ensure that the SD/TF card is high-speed and is of the type "C4"/ "C6".

➤ **The message "File Error" appears during playback**

This is because of incorrect storage of the data, resulting in the file error. Re-format the SD/TF Card using "Format" in Main Menu.

➤ **Cannot display image on TV screen**

Confirm that the AV or HDMI cable is connected correctly, and the TV is set and tuned to the correct AV or HDMI mode.

➤ **Image is blurred**

Maybe the lens is not clean. Check whether there is dirt or fingerprints on the lens .Use lens paper or soft cloth to clean the lens before using.

➤ **Indicator light will not illuminate**

If the power insufficient, the indicator light will not operate.

➤ **Image has horizontal stripes interference**

This due to the wrong setting of “Flicker” .Please check the local power supply frequency and reset the Flicker setting in Main menu to 50 Hz or 60 Hz.

➤ **Camera does not start recording automatically after the car power is turned on**

Please make sure the loop recording in Main menu is set to 1, 3 or 5 mins, and is not OFF, The camera will not auto start recording when loop recording is OFF; Auto record will only function when there is a SD/TF card inserted in the camera..

➤ **The camera keeps automatic recording and will not stop stop .**

Check if the Motion Detect in Main menu is switched on. .You can check whether the icon  is displayed on the screen. When the Motion Detect is ON, the camera will start recording when a moving object appears within the range of camera. When the screen is stationary, the recording will stop automatically until a moving object appears again.

➤ **Auto power off setting does not work**

Check that motion detection is turned off. If the motion detection is turned on, the camera will always be in standby mode and will start recording when movement is detected, the machine will not automatically shut down until the power is switched off

➤ **What can I do if the camera software crashes and locks up?**

If the camera locks up, press the power button (10) for 10 seconds, the machine will reset and restart.

12. Technical Support

For further technical Support please e-mail to support@amacam.net stating :

- Name and e-mail address
- Camera model
- Nature of your problem.

Or contact us through the website at www.amacam.net



www.amacam.net

Thank you for purchasing your AM-M81 from Amacam. We aim for 100% customer satisfaction, so please let us know if we can assist you in any way. You can contact us here support@amacam.net We value your comments and feedback on your Amacam product and would like to hear from you.

Register - 12 Month Warranty

To take full advantage of our service and updates, we suggest that you register your product online. This will also activate your 12 month warranty. Please use this link www.amacam.net/product-registration Once registered, you will be kept up to date with firmware and new products. You will also receive **10% discount** off your next Amacam product.

User Manual - Download

You can download the AM-M81 user manual in PDF format. Please go to <http://www.amacam.net/support/user-manuals> and download your copy.

Videos - YouTube

We really would like to receive AM-M81 videos from our customers. Amacam has a growing community of Amacam Dash Cam users. If you would like to share any of your Dash Cam videos with fellow Amacam customers on YouTube, please upload your clip here <http://www.amacam.net/contact-us/#upload>

Thank you for being a valued Amacam customer

