



Handheld Surveillance Thermal Camera

UMTI

User's Manual



[UMTI USER MANUAL]

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Before using the camera, please ensure that you have read and understand the safety precautions described below. Always ensure that the IR camera is operated correctly. The safety precautions noted on the following pages are intended to instruct the user in the safe and correct operation of the IR camera and its accessories, and to prevent injuries or damage to the user, or other persons and equipment.

Do not attempt to disassemble or alter any part of the equipment that is not expressly described in this guide.

Do not use substances containing alcohol, benzene, thinners or other flammable substances to clean the IR camera, which may lead to fire.

If your camera is used for prolong periods, the IR camera body may become warm.

Warning

Do not aim the IR camera directly into the sun or at other intense heat source which could damage the Detector of the IR camera.

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1 Introduction

The UMTI uses an Uncooled Focal Plane Array (UFPA) micro bolometer sensor which gives it excellent, high-fidelity thermal images with the detail necessary for cutting edge performance. This portable thermal imager will let you see clearly in total darkness, as well as through smoke, dust, and light fog, giving you the information you need while making quick decisions, enhancing mission effectiveness, maximizing operational capabilities, and improving the users safety.



1.1 UMTI Features

- An OLED Viewfinder and UFPA high sensitivity sensor provides excellent image quality and clarity.
- Rugged design meets all kinds of outdoor environmental requirements.
- Rechargeable Li-ion battery-Provides 3 hours of camera operation.
- 16GB internal memory allows the user to store thousands of images, and over an hour of video footage.

1.2 Detection Range

The diagram below shows the comparative range performance of the UMTI camera with different lens detections and recognitions.



2 Component Guide

2.1 Top/Front View



1	Brightness – Activate NUC Shutter
2	Palette Switcher – Change between “White Hot” and Black Hot” Palettes
3	Zoom – Zoom image up to 2X
4	Capture – Capture Image / Start Video Recording
5	Power – Powers on/off the camera
6	Lens
7	Hand Strap
8	Viewfinder
9	Interface Port



10	Battery Socket
11	Battery Cover
12	Tri-pod Mounting Point

2.2 Included Accessories



1	Safety Case
2	Battery
3	AC Adaptor Battery Charger
4	EU/US/UK Wall-Socket Cable
5	Interface Cable

3 Using the Camera

3.1 Charging the Battery Pack

Follow the steps below to charge the battery pack for the first time and subsequently when the low battery icon appears on the OLED Display.

1. Align the edge of the battery pack with the line on the battery, and then insert the battery in the direction of the arrow.
2. Attach the power cord to the battery charger and plug the other end into a power outlet, Charger automatically switches between 100-240 VAC, the power light lit up show your charger is ready for use.
3. When charging, the power light will light up red, after charging, the power light will turn light green.
4. After charging, unplug the battery charger and remove the battery pack.



Please Note:

Heat will be produced normally while charging and as this is a lithium ion battery pack, there is no need to discharge it completely before recharging.

Charging times will vary according to the surrounding humidity and battery pack charge state. Over-charging may not cause damage to a full battery, but it is still recommended that the charging time shall not exceed 20 hours.

There will be an explosive risk due to improper battery replacing. Only the alternatives of the same, or equivalent, types recommended by the SATIR should be used.

3.2 Installing the Battery Pack

Please Note:

Charge the battery pack before using it for the first time.

1. Ensure that the camera is powered off and twist the battery cover anti-clockwise, see image below, until the battery cover becomes removable.



2. Insert the battery pack with the terminals facing downwards.
3. Push the battery pack all the way in and twist the battery cover clockwise until tight.






Caution:

Remove the battery pack when the camera is not in use for long periods.

Battery Status Symbols

The following icons indicate the battery status on the OLED screen.

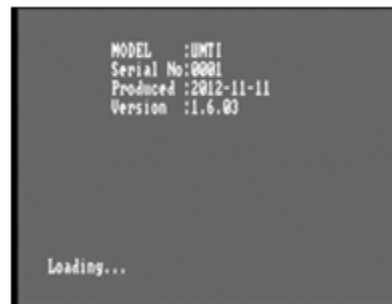
	Sufficient battery charge
	Low battery
	Replace or recharge battery

3.3 Powering the Camera ON/OFF

The power indicator can be seen by looking inside the Viewfinder, it represented by a green LED. While this is lit the camera is powered on.

To power the camera ON press and hold the power button for 3 seconds. The power indicator in the viewfinder will turn green and the start-up image, see below, will appear on the screen.



To power the camera OFF, hold the power switch for 3 seconds until the power indicator is no longer green.






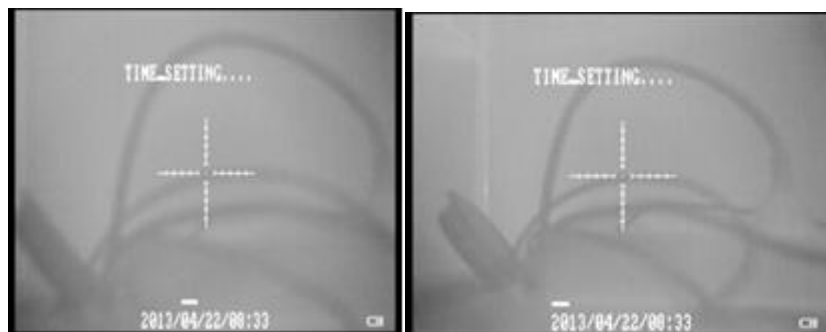
3.4 Camera Functions

3.4.1 Setting the date/time (MP4 -turned off)

You need to set the Date/Time when you turn on the IR camera on for the first time.

Press  and  keys simultaneously to enter or exit TIME SETTING mode

Press the  key to switch the date and time location. Press the  key to increase the selected numerical value; and press the  key to decrease the selected numerical value.




3.4.2 Focal Adjustment

Adjust the viewfinder/eyepiece by using the adjustment ring, as seen below. This changes the focal length of the eyepiece, to suit the individual user. Adjust the viewfinder/eyepiece until the image can be clearly seen within the viewfinder.


Open the lens cap, aim at the target to observe, and slowly rotate the lens until the target image is clear in viewfinder.




3.4.3 Electronic Zoom

In order to get a closer look at an object press the  button use the electronic 2x zoom.

3.4.4 Internal/External Reference

Long press the  key to enter the internal reference.

Long press the  key to enter the External reference.


About internal/External reference :

In some special cases, such as when the difference between IR camera's body temperature and environmental temperature is big, a non-uniformity correction problem can occur. Under these cases, please use the "External reference" to adjust the IR camera. Normally it is recommended to use the "internal reference".


**Please Note:**

When using the "External Reference", please cover the lens with the lens cap.




3.4.5 OLED Brightness Adjustment

After powering on, press the  key, to adjust the OLED brightness to suit the user.

3.4.6 White/Black Hot Colour Palette Switch

After powering on, press the  key to switch between “White Hot” and “Black Hot” colour palettes.

3.4.7 Contrast Adjustment




After powering on, Press  and  keys at the same time to enter the menu, press the  button to switch to the LEVEL submenu.


Press  key to reduce the brightness, and press  to increase brightness, the brightness value from 0 to 20, the default value is 9.



3.4.8 Automatic Gain Control (AGC)




Automatically switch to gain adjustment, so that the camera can work over a wide range of light, this is known as dynamic range, namely in lower illumination it automatically increases the sensitivity of camera, so as to improve the intensity of the image signal to obtain a clear image.


After powering on, Press  and  key at the same time to enter the menu, and then press the  button to switch to AGC submenu.


Press the  key to start the AGC, and press the  key to call off the AGC, the initial default AGC state is on.





3.4.9 Manual Gain

After powering on, Press  and  key at the same time to enter the menu then press the  button to switch to AGC submenu.


Press the  key to call off the AGC.

Press the  button to switch to GAIN submenu.

Press  key to reduce the gain, and press  key to increase the gain, the gain value from 0 to 20, and the initial default value is 9.






3.4.10 Initialize Parameters



Press the  key to initialize parameter setting. (Not including the sightline position)

3.4.11 AutIntREF

Automatically corrects the image using the internal reference.




3.4.12 Sightline











After powering on, Press  and  key at the same time to enter the menu, and then press the  button to switch to Sightline submenu.

Press the  key to start the Sightline, and press the  key to switch off the Sightline.




3.4.13 Sightline Adjustment


After powering on, Press  and  key at the same time to enter the menu, and then press the  button to switch to "Line_ADJ" submenu.


Press the  key to start the "Line_ADJ", and press the  key to call off the "Line_ADJ". After starting the "Line_ADJ" press  and  at the same time to exit the menu, then press  to make the sightline upward, press  to make the sightline downward, press  and  at the same time to make the sightline left, press  and  at the same time to make the sightline right.


3.4.14 Video Recording & Image Capture

After powering on, hold the  key to enter the MP4 menu.

Press the  key to Switch between preview and playback Mode, and choose the preview Mode.

Hold the  key to start recording.


After recording, hold the  key to stop recording, the recorded video is automatically saved into memory.


Press the  key, the snap shot picture will be automatically saved to the SD card.





3.4.15 Playback Image/Video



After powering on, hold the  key to enter the MP4 menu.

Press the  key to Switch between preview and playback Mode, and choose the playback Mode.

Press the  key to select the last file for playback.

Press the  key to select the next file for playback.

Press the  key to select the current file for playback or quit the playback.

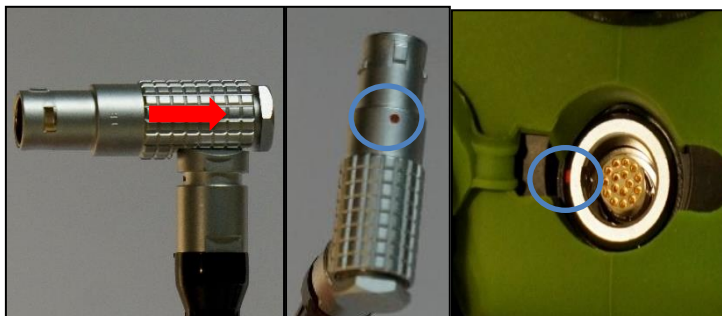
Press  and  key at the same time to pause the current playback file.



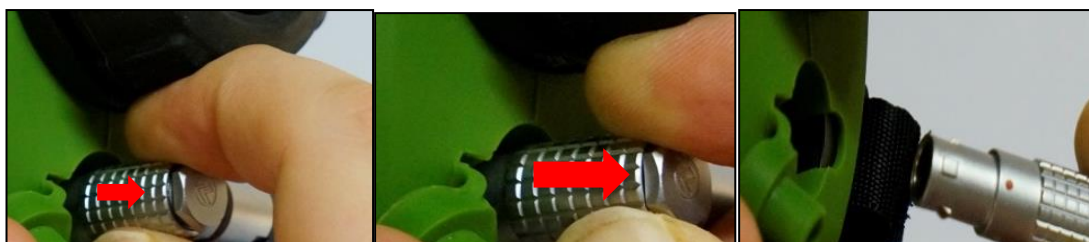
3.4.16 Download the Images

You can connect the camera to a computer using the interface cable, and download the images to a computer. **(Note: There is a small latch mechanism on the camera port connector; this is used when removing the connector from the camera.)**

- To connect the 90° camera port connector, match the **RED MARK** on the connector and camera port and insert the connector into the camera.



- Once the cable is connected, the user may connect the camera to a PC via the USB, and download any required images, or footage, to the PC.
- To remove the cable from the camera, pull back the latch on the connector, grip tightly and pull the connector straight out of the port.



4 Specifications

Model	UMTI
FOV/Mini focus distance	28°×21°/50cm
Detector type	Focal Plane Array (FPA), uncooled micro bolometer
Resolution	384×288
Spatial resolution	1.08mrad
Spectral range	8~14um
NETD	50mK@30°C
Control method	Key
Video output	NTSC (60Hz) /PAL (50Hz) composite video
Consumption	4W
Working temperature	-10°C to +50°C
Storage temperature	-20°C to +70°C
Humidity	≤90% (non-condensing)
Encapsulation	IP66
Housing Colour	Available in Green/Black or Black/Black
Power supply	Li-ion rechargeable battery
Size (L × W × H)	188mm × 94mm × 80mm
Weight	About 650g
Start-up time	≤20s
Tripod mounting	1/4" _20
Shock	25G
Vibration	2.5G
Storage card	16G
Electronic Zoom	2x
Focus range	10m~∞

5 Service and Support

The quick user guide, user manual and reporting software is available from SATIR's website.

Download Link: <http://www.satir.com/downloads>

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