



# COBRA CAM™ PRO

*Instruction Manual*



11/13

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## Introduction

The Triplet CobraCam PRO Inspection Camera is a hi-tech tool that uses the latest technology to see images of difficult to view locations. Its water resistant flexible shaft and miniature camera fit into awkward spaces, tight locations or through small holes. Bright LED headlights in the camera illuminate dark areas, allowing the camera to 'see' in total darkness. The wireless LCD module with large 3.5" screen, detaches from the handle for additional freedom in viewing, and internal magnets will conveniently mount the module to steel surfaces. Both Video and Snapshot memory are provided via a microSD card, and saved files can be viewed on the LCD screen or downloaded to a computer via the USB port. A magnetic probe, hook, and mirror enhance the usefulness by allowing the camera to pick up magnetic objects, hook onto small objects, or view objects located at right angles to the camera body. The CobraCam Pro and its accessories are stored and transported in the included hard sided carrying case.

## Safety Information and Warnings

- Do not use where camera or wand may contact live electrical wiring. The camera and wand are made of metal and conduct electricity which can lead to electrical shock and / or short circuits.
- Do not use in explosive atmospheres.
- Do not use for medical or veterinary purposes.
- Do not submerge the hand unit or LCD screen. Do not submerge the camera connector. Only the camera and wand are rated for high humidity and submersion (up to 3ft).
- Do not submerge in or expose camera to chemicals like acids or lye.
- Do not submerge in fluids that are electrically 'live'.
- Do not use in locations with strong mechanical vibrations.
- Do not bend the wand too sharply. Too sharp of a bend can kink or permanently damage the wand.
- Do not modify product. Safety can be impaired by modification.
- Do not use where hazards such as electrical shock, short circuits, fire, etc can lead to equipment damage or user injury.
- Do not use strong detergents or solvents to clean the product. A cloth slightly dampened with water is suggested. If the dirt is not easy to remove, a mild detergent may be used.
- Read instructions for proper use of product. Save instructions for future reference.

## Items Included



<b>CobraCam PRO</b>	<b>USB charging/transfer cable</b>
<b>3.5 ft camera wand</b>	<b>4 AA Batteries*</b>
<b>Mirror, hook, and magnet pick-up</b>	<b>Micro SD Card*</b>
<b>Wrist band for screen</b>	<b>Instruction manual*</b>
<b>RCA video output cable</b>	<b>Molded plastic carrying case*</b>

\* Items not shown

## Overview / Controls



## Inserting / Replacing Batteries

1. Loosen the screw using a Phillips screwdriver and take off the cover of the battery compartment.
2. Remove the battery holder from the battery compartment.
3. Insert four AA batteries into the battery holder, observing the polarity markings inside the battery holder bays.
4. Put the battery holder back into the battery compartment, observing the polarity markings on the top of the battery holder and inside the battery compartment.
5. Close the battery compartment again.

**Note:** The Battery LED (5) does not monitor the AA batteries. It is for the rechargeable battery in the LCD module. Replace the AA batteries when the illumination LEDs become dim, or when the camera seems to malfunction or stops working.

## Charging Detachable Display

If the battery LED (5) flashes red or the on-screen battery symbol indicates low, the internal Li-Ion battery needs to be charged.

1. Open the cover on the right side of the display module.
2. Insert provided USB cable in USB port (12)
3. Connect the other end of the USB cable to a USB power source. This may be a computer or some other USB power source.
4. The battery LED (5) will light up orange to indicate charging. The LED will turn off when charging is complete. If the display module is turned on while connected to a USB power source (not a computer), the on-screen battery symbol will 'cycle' to indicate charging. If the display module is turned on while connected to computer, the module will display a picture of a USB connector and attempt to establish a link with the computer. The camera cannot be used at this time.
5. Disconnect the USB cable after charging.

## Connecting the Camera Wand

1. Holding the camera connector in one hand and the hand unit in the other hand, align the protruding tab on the camera connector with the notch in the mating connector on the hand unit. Carefully mate the connectors together. Do not force them.
2. Slide the locking ring forward to engage the threads of the camera connector. Carefully rotate the ring clockwise (viewed from display module) until it is fully threaded to the camera connector. Do not force or cross-thread. Sometimes the connector and locking ring must be pressed together snuggly to align the threads before rotating the ring.
3. To remove the camera, unthread the locking ring in the direction indicated by the engraved arrow.

## Inserting or Removing the MicroSD Card

To use the photo/video function, you first have to insert a microSD card (included).

1. Open the cover on the right side of the display module.
2. Insert a microSD card into the microSD slot. The contacts of the card have to face upwards, towards the LCD side of the display module. Press the card in until it snaps in place.
3. If removing the card, press it in to release it. It will spring out far enough that the edge can be grasped and removed.
4. Close the cover to protect the card and the connectors

## Operation

1. To operate, both the LCD module and the Handle must be turned on. Press the ON/OFF button (11) to turn on the LCD module. Power LED (3) will turn on. Rotate thumbwheel (6) on the Handle to turn on the Handle electronics and the camera. If the camera is not in the dark, its image should appear on the LCD screen.
2. Four LEDs are integrated into the camera head. Their brightness is controlled by the thumbwheel (6) in the Handle. When the camera is in a dark location, rotate the thumbwheel for the desired brightness. Set the brightness so that the camera image is neither overexposed nor underexposed. This adjustment is very important to obtaining a usable image. Experiment until the best setting is found.

**Note:** Use the minimum setting if the camera doesn't need additional light. This will allow the AA batteries to last longer.

3. Press and hold the up button (10) for approx. two seconds to rotate the picture by 180°.
4. Press and hold the down button (8) to zoom. There are 4 settings. Pressing the down button when in the highest zoom will return the setting to normal.
5. To turn the product off, press the ON/OFF button (11) and rotate thumbwheel (6) until it clicks.

## Attachments

The CobraCam Pro includes several attachments to enhance the usefulness of the product. A Magnet allows the camera to pickup small steel parts. The Hook allows the camera to locate and hook small objects, like a gold ring or a small gage wire. The Mirror allows the camera to see to the side.

1. The attachments are provided with their clasp 'open'. To use, place the attachment with clasp open in the groove on the camera body.
2. Close the clasp securely so the attachment doesn't come loose during use.
3. To release the clasp, it may be necessary to use a small screwdriver.

## Button Functions

Button	Function
Menu	<ul style="list-style-type: none"><li>• Call up menu</li><li>• Navigate from submenu back to main menu</li><li>• Exit main menu</li></ul>
↓	<ul style="list-style-type: none"><li>• Move cursor downward</li><li>• Reduce value</li><li>• Select Zoom Setting</li></ul>
↑	<ul style="list-style-type: none"><li>• Move cursor upward</li><li>• Increase value</li><li>• Rotate view 180 degrees</li></ul>
Center button	<ul style="list-style-type: none"><li>• Confirm selection</li><li>• Take Snapshot</li><li>• Start or Stop Video Recording</li></ul>

## Settings

To access or modify the User Settings:

1. With product turned on, press the MENU button (7).
2. Use the up and down buttons (8 and 10) to select Settings.
3. Press the Center button (9).

Now the product settings can be examined or changed according to the user's needs.

### Video Output Format

1. Select the menu item 'TV Output' using the up and down buttons (8 and 10).
2. Press the Center button (9).
3. Select NTSC or PAL using the up and down buttons (8 and 10). NTSC is the format used in North America.
4. Confirm the selection by pressing the Center button (9)
5. Exit by pressing the MENU button (7).

### Frame Rate

1. Select the menu item 'Frame Rate' using the up and down buttons (8 and 10).
2. Press the Center button (9).
3. Select 20fps, 25fps, or 30fps using the up and down buttons (8 and 10). 30fps is the frame rate used in North America.
4. Confirm the selection by pressing the Center button (9)
5. Exit by pressing the MENU button (7).

### Formatting MicroSD Card

Formatting the microSD Card will erase all photos and video on the card. To selectively erase or delete items, connect to a computer and use the computer to delete individual files.

1. Select the menu item 'Format' using the up and down buttons (8 and 10).
2. Press the Center button (9).
3. Select Yes or No using the up and down buttons (8 and 10). 'Yes' will erase the card.
4. Confirm the selection by pressing the Center button (9)
5. The product will exit to the Menu when formatting is complete.

## Set Time & Date

1. Select the menu item 'Time/Date' using the up and down buttons (8 and 10).
2. Press the Center button (9).
3. The Date is set first using the up and down buttons (8 and 10) and the Center button (9). The format is DD/MM/YYYY. Set using the common method for setting a digital watch or clock.
4. When the Date is set, the screen will advance to the Time setting. The format is HH/MM/SS. Use the up and down and Center button to adjust the Time. When the Center button (9) is pressed after setting the seconds, the product will exit to the MENU screen.

## Setting Language

1. Select the menu item 'Language' using the up and down buttons (8 and 10).
2. Press the Center button (9).
3. Select English, Deutsch, Espanol, Francais, or Nederlands, using the up and down buttons (8 and 10).
4. Confirm the selection by pressing the Center button (9)
5. Exit by pressing the MENU button (7).

Return to the main screen by waiting for about 20 seconds, or by pressing the MENU button.

## Photo / Video Function

### Photo

1. Select the menu item 'camera' using the up and down buttons (8 and 10).
2. Press the Center button (9).
3. Now Press the Center button (9) to take a photo.

### Video

1. Select the menu item 'DVR' using the up and down buttons (8 and 10).
2. Press the Center button (9).  
On the top left of the display a video camera icon appears.
3. Now Press the Center button (9) to record a video.
4. Press the Center button (9) button again to end the video recording.

## Playback

1. Select the menu item 'Playback' using the up and down buttons (8 and 10).
2. Press the Center button (9).
3. The photo/video recorded last is shown on the display.
4. Select the desired photo/video using the up and down buttons (8 and 10).

The video playback will be started automatically. If you want to pause the video, press the Center button (9) during playback. To continue playback of the video, press the Center button (9) again.

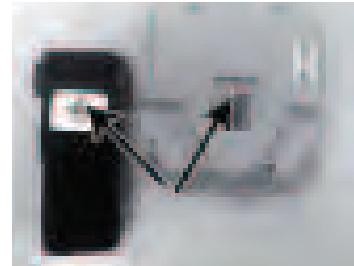
## Detachable Display

The LCD display module can be used wirelessly. Once detached, the display will receive an image if placed within 16ft of the Handle. Other wireless devices or electronics can interfere with the video signal. To use the display wirelessly:

1. Slide the display towards the camera wand. It will disengage and detach from the Handle.
2. The camera picture appears on the display.
3. Mount the display to a steel surface or the provided wristband (see below). Alternately, lay it on a surface or prop it up for easy viewing.
3. To reattach the display to the handle, align the guides and slide the display downwards until it engages with a click

## Monitor Wristband

1. Attach the elastic Velcro wristband to your arm. Position the 'dimple' in the metal guide plate so the display will be upright once mounted. This usually means the dimple is positioned away from the user's body.
2. Mount the detachable display onto the metal plate.  
The display should click into place. If it does not click, the dimple is positioned incorrectly.



## Connecting to a PC

1. Open the cover on the right side of the display module.
2. Insert provided USB cable in USB port (12)
3. Connect the other end of the USB cable to a computer.
4. When a connection is established, the LCD will display an image of a USB plug.
4. The CobraCam Pro will appear to the computer as a card reader. Use the computer's software to Open, Copy, Delete, Move, etc. The specific details depend on the computer and operating system.

**Note:**

- a. The LCD display module does not have to be attached to the Handle to download to the computer.
- b. While connected to the computer, the battery in the LCD module is charging.
- c. If the operating system requires it, use 'remove hardware safely' before unplugging the USB cable.

## Connecting to a TV

1. Set the Video Output Format and Frame Rate (see section "Settings"). In North America, this is NTSC / 30fps.
2. Open the cover on the right side of the monitor.
3. Insert the provided video cable into the Video Output jack (14).  
Connect other end of video cable to a TV
4. This will transfer the image from the LCD module to the TV screen.

**Note:**

- a. The TV requires a standard baseband video input. This is often identified as a yellow female RCA jack.
- b. The LCD module can be detached from the Handle while using this feature. The image from the camera will be wirelessly coupled to the LCD module then sent to the TV screen.
- c. Saved Photos and Video can be viewed on the TV screen.

## Maintenance

No regular maintenance of the CobraCam PRO is required. In the event the product is defective or is damaged, please contact Triplet for repair information.

## Customer Support

In the unlikely event that you experience problems with your Triplet product, please contact us at [sales@triplett.com](mailto:sales@triplett.com).

## Technical Data

<b>Operating voltage:</b>	<b>4 x 1.5 V AA battery (included)</b>
<b>Current consumption:</b>	<b>max. 450 mA</b>
<b>SD card type:</b>	<b>micro SD (max. 2 GB), micro SDHC (max. 32 GB) - 4GB card included</b>
<b>Display:</b>	<b>3.5" TFT</b>
<b>Resolution:</b>	<b>320 x 240 pixels (monitor), 640 x 480 pixels (camera)</b>
<b>Video format:</b>	<b>PAL, NTSC</b>
<b>Camera lighting:</b>	<b>4 white LEDs</b>
<b>White balance:</b>	<b>automatic</b>
<b>Exposure:</b>	<b>automatic</b>
<b>Field of view:</b>	<b>54°</b>
<b>Depth of field:</b>	<b>1"-3"</b>
<b>Operating temperature:</b>	<b>32 °F to +113 °F</b>
<b>Operating humidity:</b>	<b>15 – 85 % RH</b>
<b>Storage temperature:</b>	<b>14 °F to +122 °F</b>
<b>Storage humidity:</b>	<b>15 – 85 % RH</b>
<b>Camera length:</b>	<b>3.25'</b>
<b>Camera head:</b>	<b>8 mm (.315")</b>
<b>Min. bend radius:</b>	<b>1.75"</b>
<b>Wireless range:</b>	<b>max. 16'</b>
<b>Dimensions (W x H x D):</b>	<b>3.5" x 8" x 5.2"</b>
<b>Weight:</b>	<b>19oz including AA batteries 10oz without AA batteries</b>

## Tripletter One Year Limited Warranty

Tripletter / Jewell Instruments warrants instruments and test equipment manufactured by it to be free from defective material or workmanship and agrees to repair or replace such products which, under normal use and service, disclose the defect to be the fault of our manufacturing, with no charge within one year of the date of original purchase for parts and labor. If we are unable to repair or replace the product, we will make a refund of the purchase price. Consult the Instruction Manual for instructions regarding the proper use and servicing of instruments and test equipment. Our obligation under this warranty is limited to repairing, replacing, or making refund on any instrument or test equipment which proves to be defective within one year from the date of original purchase.

This warranty does not apply to any of our products which have been repaired or altered by unauthorized persons in any way so as, in our sole judgment, to injure their stability or reliability, or which have been subject to misuse, abuse, misapplication, negligence, accident or which have had the serial numbers altered, defaced, or removed. Accessories, including batteries and fuses, not of our manufacture used with this product are not covered by this warranty.

To register a claim under the provisions of this warranty, contact Tripletter / Jewell Instruments' Customer Service Department for a Return Authorization Number (RMA) and return instructions. No returned product will be accepted without an RMA number. Upon our inspection of the product, we will advise you as to the disposition of your claim.

**ALL WARRANTIES IMPLIED BY LAW ARE HEREBY LIMITED TO A PERIOD OF ONE YEAR FROM DATE OF PURCHASE, AND THE PROVISIONS OF THE WARRANTY ARE EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES EXPRESSED OR IMPLIED.**

The purchaser agrees to assume all liability for any damages and bodily injury which may result from the use or misuse of the product by the purchaser, his employees, or others, and the remedies provided for in this warranty are expressly in lieu of any other liability Tripletter / Jewell Instruments may have, including incidental or consequential damages.

Some states (USA ONLY) do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. No representative of Tripletter / Jewell Instruments or any other person is authorized to extend the liability of Tripletter / Jewell Instruments in connection with the sale of its products beyond the terms hereof.

Tripletter / Jewell Instruments reserves the right to discontinue models at any time, or change specifications, price or design, without notice and without incurring any obligation.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.