

# INSTRUCTIONS

## Hawkeye® Classic Video Borescope

Non-Articulating Industrial Video Borescope



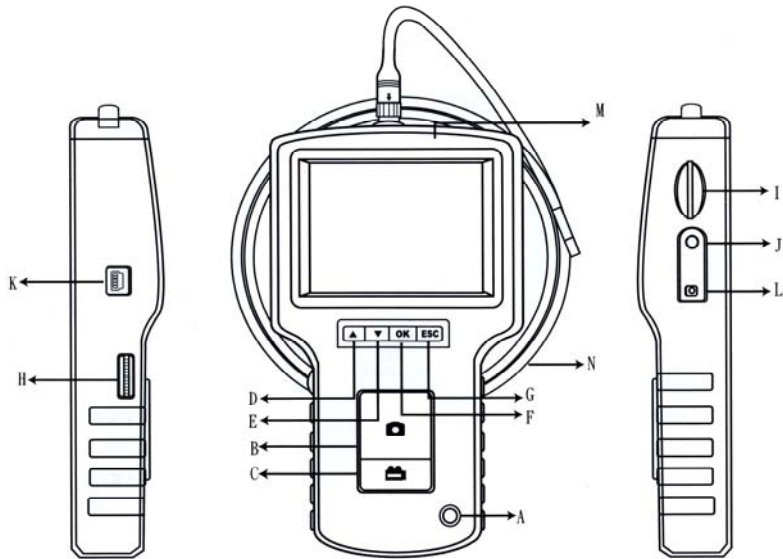
# Gradient Lens Corporation

## Hawkeye® Classic Video Borescope

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- A. Power button
- B. PHOTO button
- C. REC button
- D. PREV button
- E. NEXT button
- F. Multi-selector **OK**
- G. Escape **ESC**
- H. Light switch
- I. SD jack
- J. AV jack
- K. USB jack
- L. DC IN jack
- M. Main unit
- N. Probe / cable

The Hawkeye® Classic 8mm Video Borescope is an easy-to use device designed with simple operational function and controls. There are 3 operating modes as described below:

Standard Operating Mode	Displays current camera input and date/time. From this mode still pictures and video are captured
Image Review Mode	This mode allows the user to review still pictures and video.
Menu Mode	This mode includes file maintenance, settings etc.

Note: If the menu mode is not operated for 10 seconds, the system will automatically revert to 'Standard operating mode'.

Button	Standard operating mode	Image review Mode	Menu Mode
	switches to image review mode and scrolls reverse through still images and videos	scrolls to previous still image or video	scrolls up through selections
	switches to image review mode and scrolls forward through still images and videos	scrolls to next still image or video	scrolls down through selections
<b>OK</b>	Enters Main Menu	To delete current image or video	Confirm selection
<b>ESC</b>	displays battery and memory status	Returns to Standard operating Mode and displays 'CAMERA' and battery and memory status.	Returns to Standard operating Mode and displays 'CAMERA' and battery and memory status.
	Pressing this button captures a still image (jpeg) If you hold the button down the captured image will remain displayed until the button is released. If you are recording a video clip pressing this button will stop the recording process	If you are currently viewing a still image, this button will display the next image or video. If you are currently viewing a video clip this button will pause/resume the current video clip.	Displays information about the software version of the product for technical repairs and maintenance
	Pressing this button starts/stops video recording . The video cam symbol is displayed while recording	Returns to Standard operating Mode and displays 'CAMERA' and battery and memory status.	Returns to Standard operating Mode and displays 'CAMERA' and battery and memory status.

Getting Started...

Screw the insertion tube to the main unit. The display screen and the arrow on the insertion tube connector should both be facing you.

Press and hold the Power button for 3-5 seconds to turn unit on.

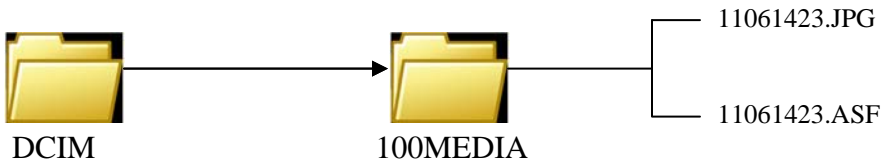


The logo will appear. Then 'CAMERA' and the battery and memory status indicators will appear for about 5 seconds. When these indicators disappear the unit is ready to record.

To turn the unit off press and hold the Power button for 3-5 seconds until the unit turns off.

Once the unit is on and ready PLEASE CHECK AND OR SET THE DATE/TIME. The unit will function properly without the date and time set, but the image files are saved according to the DATE/TIME they are captured. The file name on the SD card is set as shown below:

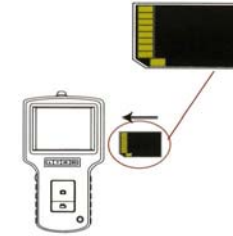
The Unit Date/Time being Jan 1 @ 6:14:23 will capture a still photo with file name : 11061423.JPG					
1	1	6	14	23	.jpg
month	day	hour	min	sec	file extension



Still Photo files are saved as .JPG, Video files are saved as .ASF

Accessories included:

**SD Card** - Take care to insert the SD card with the appropriate orientation.



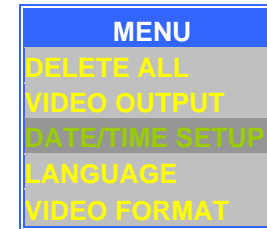
**USB Cable** – enables connection to a computer for convenient file transfer and maintenance.

**Video cable** – connects Main Unit to an auxiliary display for remote viewing if desired

**Battery charger/ DC power adaptor** – to charge battery when low power is indicated. Low power is indicated by the battery status indicator depicting a less than full charge and turning yellow.


**To set the DATE/TIME:**




Open the Main Menu by Pressing **OK**. Use the ▲ and ▼ to select the DATE/TIME SETUP function and press the **OK** button. Use the ▲ and ▼ to select year/month/day







hour/minute/second, and display status variables. Press the and/or buttons to scroll through the number choices to set each variable of the date, time, and status. If the “TIME SET DISPLAY” indicates “ON” status the captured still images will include the time/date stamp. Press **OK** to return to the Main Menu or **ESC** to go to Standard Operating Mode.



**To adjust Light intensity:** The Hawkeye® Classic 8mm Video Borescope has a fully integrated LED light source. Control the intensity of the LED output using the thumbwheel light switch on the main unit.

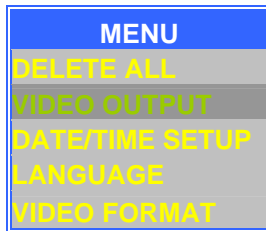
**To Capture a Still Photo:** Touch the  button. If you hold the button down the captured image will remain displayed until the button is released.

**To Capture a Video Clip:** Touch the  to start recording. The status display of the Video camera in the lower left of the image will be on to indicate that you are recording. Press the  button again to stop recording and save the clip. Pressing the  button will also stop the recording process and save the clip.





**To View captured photos or video clips:** Push the  or  button to enter image review mode. You can scroll forward or back through the photos and videos. If you scroll to a video file the video will play automatically, you can pause and resume playing the video clip using the  button. If you are viewing a photo and touch the  button the next image or video will be displayed.

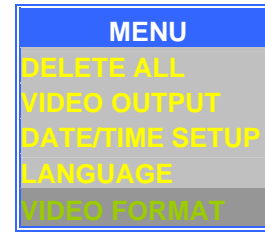
**To View from an Auxiliary display:** Connect your auxiliary display (the display must accept a composite input) to the jack on the right side of Main Unit using the AV cable. The unit will automatically switch to the auxiliary display when the cable is first connected and will revert to the built in display when the cable is first disconnected.








Press **OK** to go to Menu mode, select the VIDEO OUTPUT function with the  or  buttons, press the **OK** button to transfer the video signal to and from an auxiliary display. This function will allow you to toggle between displays if both are connected.







**To change Video Output Format for auxiliary display:**

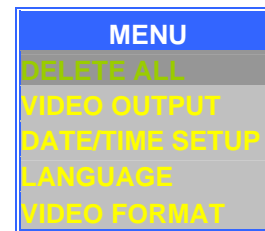
Press **OK** to go to Menu mode, select the VIDEO FORMAT function with the  or  buttons, press the **OK** button. The unit then displays a frame which includes two options that allow you to choose the format of the output video signal for an auxiliary display. The options are NTSC and PAL use the  or  to select and press **OK** to confirm.



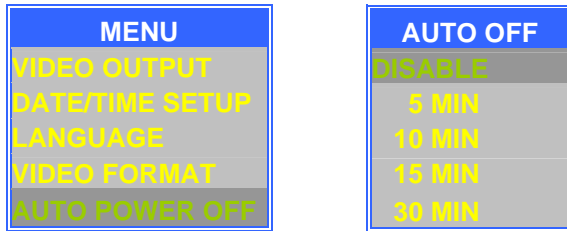
**To Delete a Single File:** Press  or  to enter Image Review mode. Scroll to the required file using  or  or  buttons. When the required photo or video file is displayed press **OK**. A frame will be displayed to confirm the delete function. Select 'YES' with  or  and press **OK** to confirm.



**To Delete all files:** Press **OK** to go to Menu mode, select the DELETE ALL function with the  or  buttons, press the **OK** button. A frame will be displayed to confirm the erase all function. Use  and  to select 'Yes' and press **OK** to confirm.



**To setup Auto Power Off:** Press **OK** to go to Menu mode, select the AUTO POWER OFF function with the ▲ or ▼ buttons, press the OK button. Use the ▲ and ▼ to select time for auto power off or to disable the auto power off function press **OK** to confirm.



**To transfer files to a personal computer:** The Main unit will act as a memory card reader and is accessible via a USB 1.1 or 2.0 port. Plug in the Mini USB 1.1 connector to the Main Unit and open the drive associated with the chosen port. The stored images are contained in the location E:\DCIM\100MEDIA where E is the drive letter. Jpegs can be viewed with Windows Picture Viewer and video files play in Windows Media Player.

**Caution**

- Do not remove the SD memory card during capture operations, data will be lost and the memory card may be damaged.
- Video files use large amounts of memory quickly. We recommend 80X SD card or faster for best quality video clips.
- Use cotton swabs and alcohol to clean the tip optics.

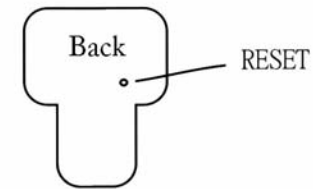
**Nothing on LCD screen:** Battery Power too low. Recharge battery.

**No Image - but words and status symbols on LCD display:** Insertion tube is not connected securely. Reattach insertion tube.

**Cannot capture photos or video:** No SD Card inserted.

**Shut down:** Battery has discharged below operating threshold. Recharge battery.

**!!! No functions working!!!** If all functions freeze or fail, first try to power the unit off and restart. If the unit does not recover insert an insulated needle into the hole on the back of the main unit to perform a system reset.

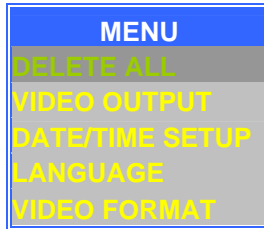


**Warnings**

- Do not use this product in inadequately ventilated environments especially where there may be explosive fumes.
- Do not use chemical cleaners or solvents to clean the surfaces of the Main Unit or insertion tube.
- Do not open the product there are no user serviceable parts.
- Handle product carefully and do not crush , or bend the insertion tube beyond it's normal operating bend radius.
- This product is not for use in the medical field.
- Do not use in direct sunlight.
- Store product in a dry adequately ventilated area.

From the Standard Operating Mode : Press the **OK** button to display the Main Menu as follows:

**DELETE ALL**  
**VIDEO OUTPUT**  
**DATE/TIME SETUP**  
**LANGUAGE**  
**VIDEO FORMAT**  
**AUTO POWER OFF**



You can scroll through the functions on this menu using the **▲** and **▼** buttons and select the function using the **OK** button.

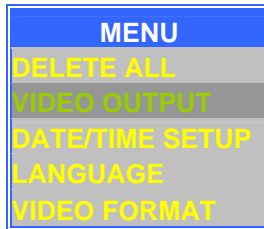
### DELETE ALL

When this function is selected by pressing the **OK** button the unit displays a frame which includes two options. Use **▲** and **▼** to select “Yes” or “No” and press **OK** to confirm.



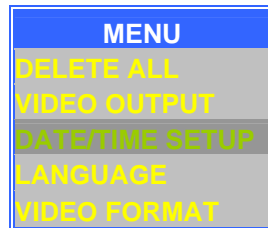
### VIDEO OUTPUT

Selecting this function by pressing the **OK** button transfers the video signal to and from an auxiliary display using the supplied cable. The unit will automatically switch to the auxiliary display when the cable is first connected and will revert to the built in display when the cable is first disconnected. This function will allow you to toggle between displays if both are connected.



### DATE/TIME SETUP

Select this function by pressing the **OK** button, use the **▲** and **▼** to select year/month/day or hour/minute/second, then press the **⏪** and/or **⏩**

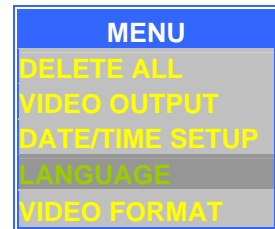


buttons to scroll through the number choices to set the date and time. If the “TIME SET DISPLAY” indicates “ON” status the captured still images will include the time/date stamp.



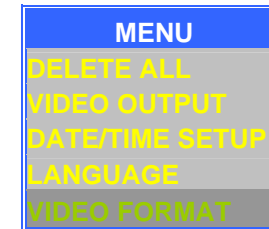
### LANGUAGE

If your unit is supplied with a language option this function will allow you to select English or the optional language.



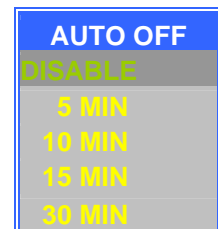
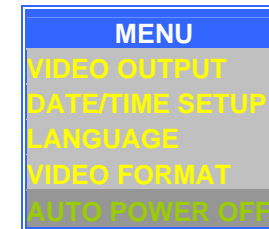
### VIDEO FORMAT

When this function is selected by pressing the **OK** button the unit displays a frame which includes two options that allow you to choose the format of the output video signal for an auxiliary display. The options are NTSC and PAL use the **▲** and **▼** to select and press **OK** to confirm.



### AUTO POWER OFF

Select this function by pressing the **OK** button, use the **▲** and **▼** to select time for auto power off or to disable the auto power off function press **OK** to confirm.





### Insertion tube Specifications

Image Sensor	CMOS Image Sensor
Resolution (Dynamic/Static)	320(H) X 240(V) / 640(H) X 480 (V)
Insertion Tube Tip Diameter	5.5mm
Frame rate	~30fps
Exposure	Automatic
White Balance	fixed
Field of View (FOV)	50°
Depth of Field (DOF)	1.5cm - 10cm
Light source	4 white LED
Working temp	-20° - 70°C

### Main Unit Specifications

Power	DC 5V
Display	3.5" TFT LCD Monitor 320 X 240 Pixels
Interface	Mini USB 1.1 / AV out
Battery	Rechargeable Li-Polymer Battery (3.7V)
Video Output Format	NTSC & PAL
Recording Medium	SD card (capacity up to 2G)
Still image storage format	JPEG (640 X 480)
Video Recording storage format	ASF (320 X 240)
Language	English + option (one language)
Working/ Storage temp	-20° - 60°C
While charging battery temp	0° - 40°C

### USA

This device has been tested to be in compliance with part 15, class A of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### Canada

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.



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