

HD²

INSTRUCTIONS



Thank you for purchasing the Intova HD2 marine grade action cam! The rugged, durable and waterproof HD2 will help you capture high quality video and photos in many different venues and environments. Please read this manual carefully for usage instructions and care tips.

Enjoy!

INTOVA

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Precautions

- » Before using the camera, read the precautions to ensure correct use, the best performance and longer lifespan.
- » Do not leave or store the camera in direct sunlight, especially the lens, as prolonged exposure to direct sunlight can damage the image sensor.
- » Store in a cool, dry environment.
- » During storage, note that battery must be recharged periodically to maintain operating ability. Allowing total discharge may ruin the battery.
- » Clean with a soft dry cloth and take special care around lens.
- » Before each use, clean and maintain all O-rings in areas that have been opened by removing any dirt, sand and any other debris.
- » Format Memory Card prior to first use.

FCC STATEMENT:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

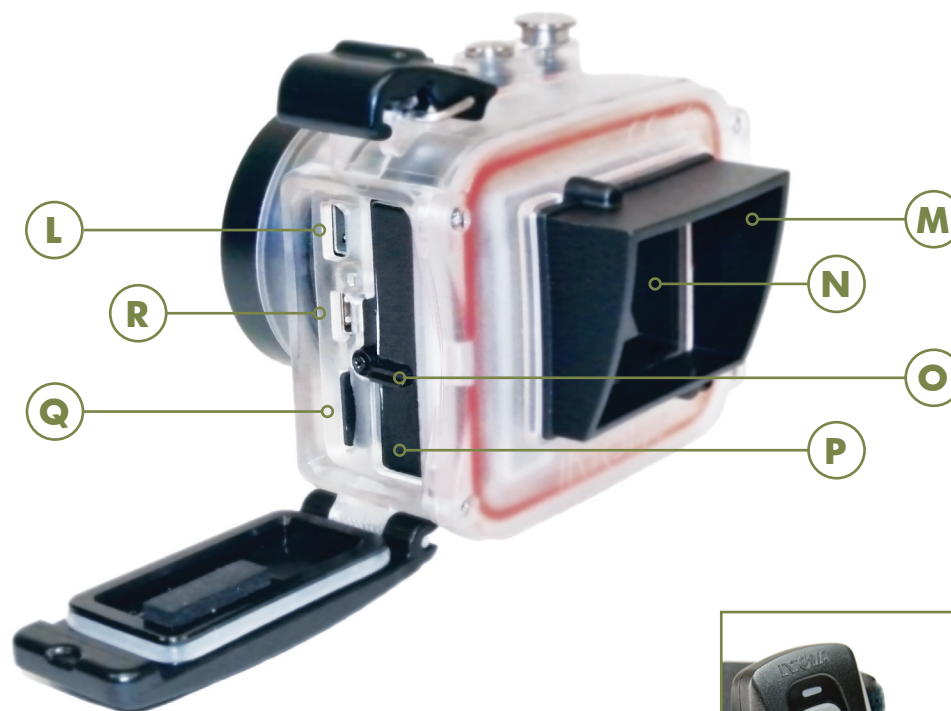
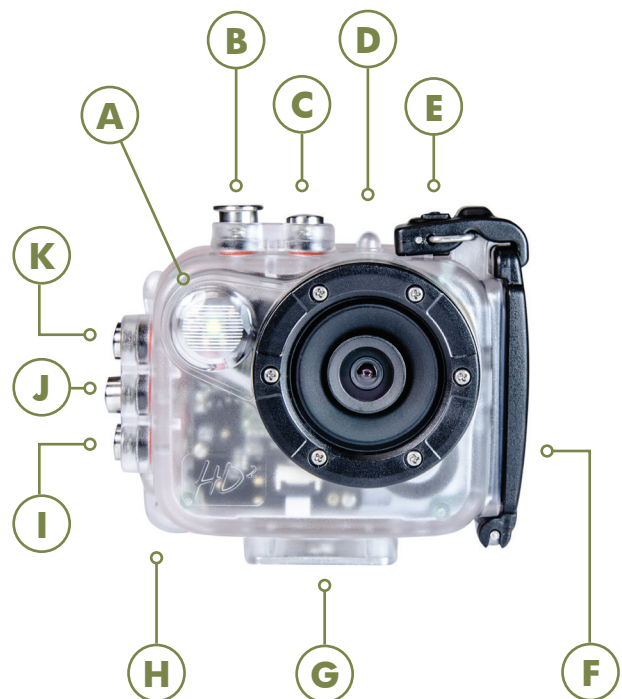
- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- » Reorient or relocate the receiving antenna.
- » Increase the separation between the equipment and receiver.
- » Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- » Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

LIMITED WARRANTY: This product has a limited 1 year warranty, to the original purchaser, to be free from defects in materials and workmanship. Follow all product instructions and warnings as warranty does not cover damage due to misuse, improper care, accidents, or alterations. See www.intova.com for further details, limitations, and restrictions.



A. Video Light/Flash

B. Shutter Button

- » Video mode: start/stop recording.
- » Photo mode: shutter button.
- » Power flash on/off (press & hold).
- » Thumbnail view mode: select.
- » Playback mode: Return to thumbnail view.

C. Power Button

- » Power the camera on/off (press & hold).

- » Video/Photo/View mode: Select.

- » Playback mode: exit menu and return to video screen.

D. Indicator Light

- » **Red LED** is ON while charging and OFF when charge is complete. **FLASHES** when video recording is in progress.

E. Door Lock

F. Removable Housing Door

G. Tripod Mount

H. Float Strap Attachment

K/I. Up/Down Buttons

- » Scroll up/down to select thumbnail to view.
- » Video/photo mode: Adjust digital zoom.
- » Playback mode: speed up video playback (down button)

- and slow down video playback (up button).

- » Down: one touch LCD off.
- » Zoom in (Up) / out (Down).

J. Menu/OK Button

- » Access Menu.
- » Select.
- » Playback mode: start and pause video.

L. Mini USB Port

M. LCD Hood

N. LCD Screen

O. Battery Lock

P. Battery

Q. Micro SD Card Port

R. Micro HDMI Video Out Port

S. Video Record

- » Start/stop recording.

T. Power OFF

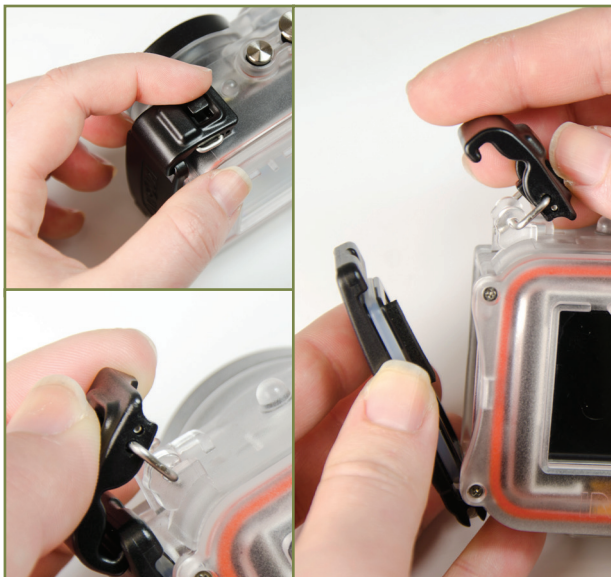
- » Power the camera off.

U. Photo Button

- » Take photo.

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QUICK START GUIDE



1. OPEN HOUSING DOOR



2. INSERT BATTERY



3. CHARGE



4. INSERT MICRO SD CARD
(Up to 32GB class 10 microSD card)



5. POWER ON (press & hold)



6. PRESS SHUTTER TO SHOOT/RECORD



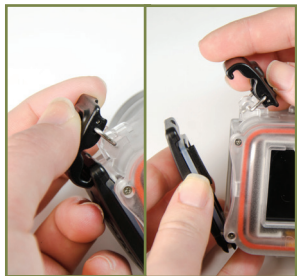
PRESS SHUTTER (press & hold) **FOR LIGHT**

OPENING THE HOUSING



Unlock Housing:

- » Slide lock towards back of camera and hold.
- » Flip latch up away from camera.
- » Un-hook latch from side door and pull open door.



CHARGE



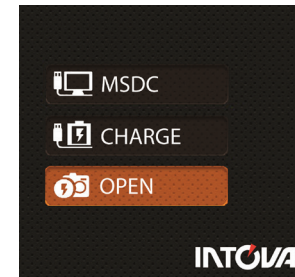
Insert the Li-ion battery into battery chamber with gold contacts facing lens port. Rotate battery lock latch 90° to secure battery.



Charge the battery by connecting the camera to a computer or other USB charging adapter using the included USB cable.



When prompted, select “charge” from the menu. The camera charging indicator light turns on during charging and turns off when charging is complete.



To recharge the battery power and operate the camera at the same time select “open” from the menu. When “open” is selected, LCD will show live view.

The camera does not come fully charged. Charging time is up to 6 hours. When charging with a computer, be sure that the computer is connected to a power source. If the camera status light does not turn on, use a different USB port. No damage occurs to the camera or battery if used without a full charge. For more battery information, see Battery.

POWER ON/OFF



Power-on: press and hold POWER key for 2 seconds, the screen starts up and the camera enters startup mode.

Power-off: press and hold POWER button for 2 seconds.

CHOOSE MODE

The camera is equipped with three modes: photo, video and playback. To switch modes, quickly press the power button.

Note: Automatic power-off will occur after selected time in AUTO POWER OFF function in settings menu. In case of extremely low battery, an icon of will appear on the LCD screen indicating urgent charging need. When the icon turns red and flashes, the camera will automatically power off.

MICRO SD CARD USE

Insert the micro SD Card: Insert card into Micro SD card port with gold contacts facing towards LCD screen. Push down until card clicks into place.

To Remove the micro SD Card: Lightly press the memory card further into the camera. The card springs out far enough to be removed.

NOTICE: The camera is not equipped with built-in memory, a memory card is required. HD2 uses Micro SD card up to 32 GB. For 1080p HD video, speed class 10 is required. The **card must be formatted** prior to use. Format a new Micro SD card before first use or as necessary after first use such as when memory card becomes full. To format SD card, press MENU, UP button, OK, UP button 8 times, OK, UP button, and OK. Format will erase all data from card. Transfer and save any data prior to formatting. Use care when handling memory cards. Avoid liquids, dust and debris. As a precaution, power off the camera before inserting or removing the card. Check manufacturer guidelines regarding use in acceptable temperature ranges.

ALERTS & IMPORTANT MESSAGES

Missing SD card Notification: Notification that there is no SD card in the camera. A Micro SD camera is required to capture photos/videos and to playback images. Insert Micro SD card and this notification will vanish.

Operation indicator: light illuminates when the camera is capturing imagery or connected to a computer.

Charger indicator: light illuminates when the camera is charging.

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ACTION VIDEO LIGHT & FLASH



PHOTO FLASH

Built-in LED flash provide approximately 120 lumens of flash power. Turn Off/On by pressing and holding the shutter for 2 seconds when in picture mode or through the Picture menu, selecting the Video submenu item and then selecting OFF or ON.

VIDEO LIGHT

The video light provides approximately 100-150 lumens of illumination. Turn Off/On by pressing and holding the shutter for 2 seconds when in video mode or through the video menu, selecting the Flash submenu item and then selecting OFF or ON.

PRESS SHUTTER (press & hold for 2 seconds) **FOR LIGHT**

2.4G REMOTE USE



S. Video Record

- » Start/stop recording.

T. Power OFF

- » Power the camera off.

U. Photo Button

- » Take photo.

Start and stop video recording: press the video record button

Shoot a photo: press the shutter button.

Power-off camera: long press (about 3 seconds) the Power Button.

Replace batteries: Unscrew back cover and remove spent batteries and replace with two fresh CR2016, 3V batteries.

IMPORTANT NOTE: Wireless transmission will not work underwater. Wireless remote is for above water use only.

Pair replacement 2.4G remote to camera:

- 1) Camera must be off.
- 2) Press and hold both video record and photo buttons at the same time until the red LED starts to blink.
- 3) Turn camera on.
- 4) Remote is paired with the camera after red LED stops blinking.

COMPUTER REQUIREMENTS FOR 1080P HD VIDEO

Minimum recommended setup for viewing 1080p 30fps video.

PC	Mac
Windows® 7, 8, 10	Mac OS X 10.6.3 or later
Intel® i3™ or faster	Intel® i3™ or faster
DirectX™ 10.0 or later	
Minimum 4GB of system RAM	Minimum 4GB of system RAM
Video card with minimum 1GB of RAM	Video card with minimum 1GB of RAM
Monitor resolution 1920x1080	Monitor resolution 1920x1080

TRANSFERRING FILES TO A COMPUTER

1. Make sure camera is powered off.
2. Connect device to computer with USB cable.
3. When prompted, select "MSDC." The screen with "USB CONNECTED" should appear and camera will be detected by the computer. Files can then be transferred.



NOTE: You can also transfer files to a computer using a **card reader** (sold separately). Connect the card reader to your computer and insert the micro SD card into the reader. You can then transfer files to your computer or delete selected files on your card.

NAVIGATING MENUS TO ADJUST SETTINGS

The “Setting” menu controls the camera’s general settings. Each camera mode, video and picture have their own settings menu. To change the mode: Press menu button and press **up/down** button to scroll through main menu selections—Video, Picture, and Setting. Press **OK** button to enter sub-menu selections.

To navigate the settings for a given mode:

1. Verify that the camera is in the desired camera mode.
2. Press the **OK** button to open the settings menu for the selected mode.
3. Use the **up/down** buttons to cycle through the settings. (Continue to press the up/down buttons for additional settings)
4. Press the **OK** button to enter sub menu.
5. Use the **up/down** buttons to cycle through the setting options. (Continue to press the up/down buttons for additional options)
6. Press the **OK** button to select the desired setting in the sub menu.

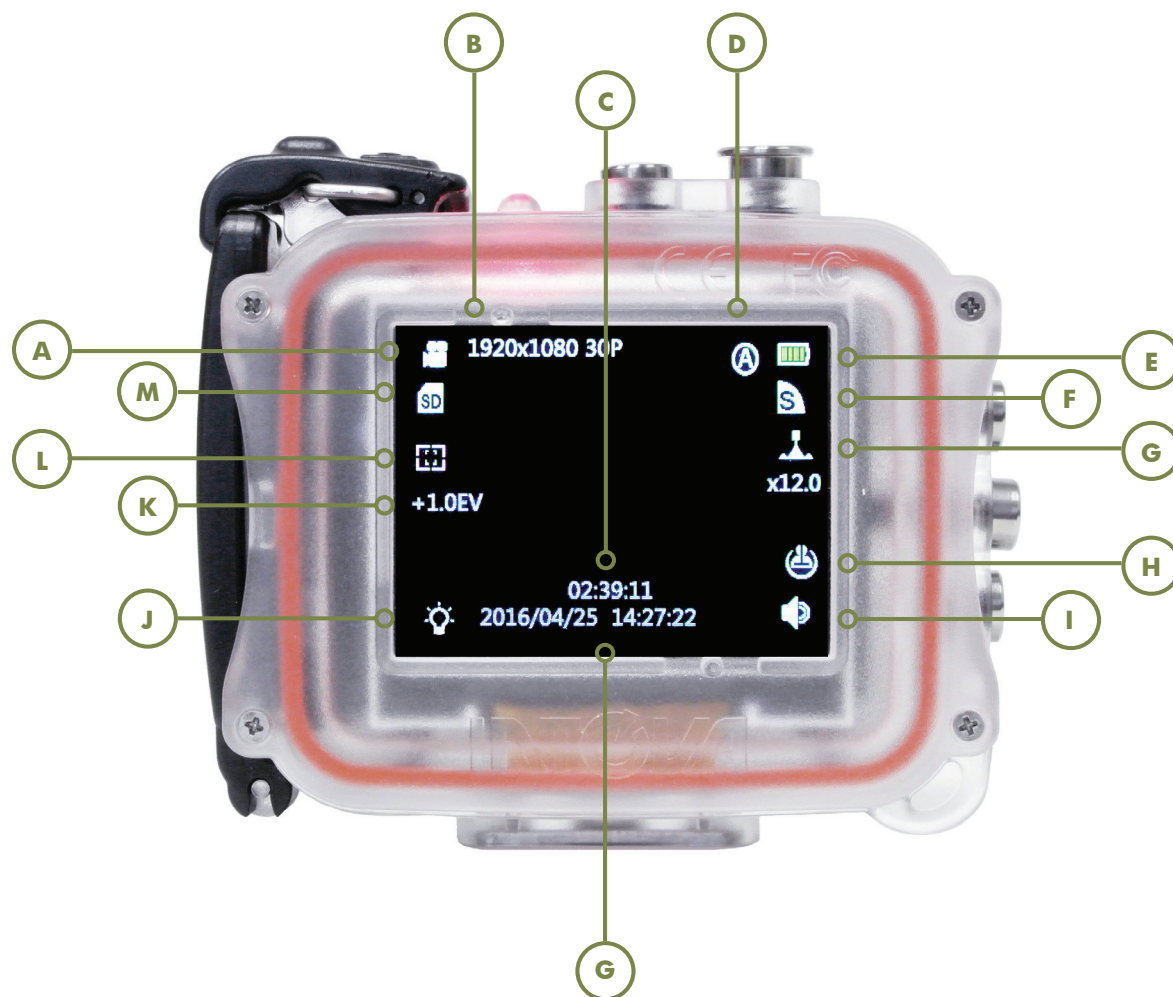
Press the **power button** twice to go back/exit.

CAMERA SETTINGS (GENERAL)

TV System	Configures the video file for playback on either an NTSC or PAL system device.	NTSC PAL
Time Setup	Set date and time:	
Date Format	Layout of the date stamp. With sub-menu item highlighted, press OK button to enter setting. Press up/down buttons to change number and press OK button to scroll to next number. Press OK button to confirm.	YY/MM/DD MM/DD/YY DD/MM/YY
Flip Mode	Corrects orientation when camera is mounted upside down.	Off/On
Format	Format Micro SD Card. WARNING: Format will erase all data from card. Transfer and save any data prior to formatting.	
Reset System Settings	Resets camera to factory default settings.	
LCD Off	Turns LCD off after selected time to conserve battery power.	30 seconds 1 minute 3 minutes
Volume	Adjust beep volume.	0 (off) - 7 (high)
Language	Select/change menu language.	English Chinese (traditional) Chinese (simplified) Japanese French German Dutch Portuguese Spanish Russian Korean Italian
Beep Sound	Controls beep sound.	Off/On
Auto Power Off	Turns Camera off after selected time to conserve battery power.	30 seconds 1 minute 3 minutes 5 minutes
Firmware Version	Indicates installed firmware version. Please note when updating firmware in order to confirm new firmware has been installed.	

VIDEO STATUS SCREEN

Your HD² camera displays the following information about modes and settings when in the video mode:

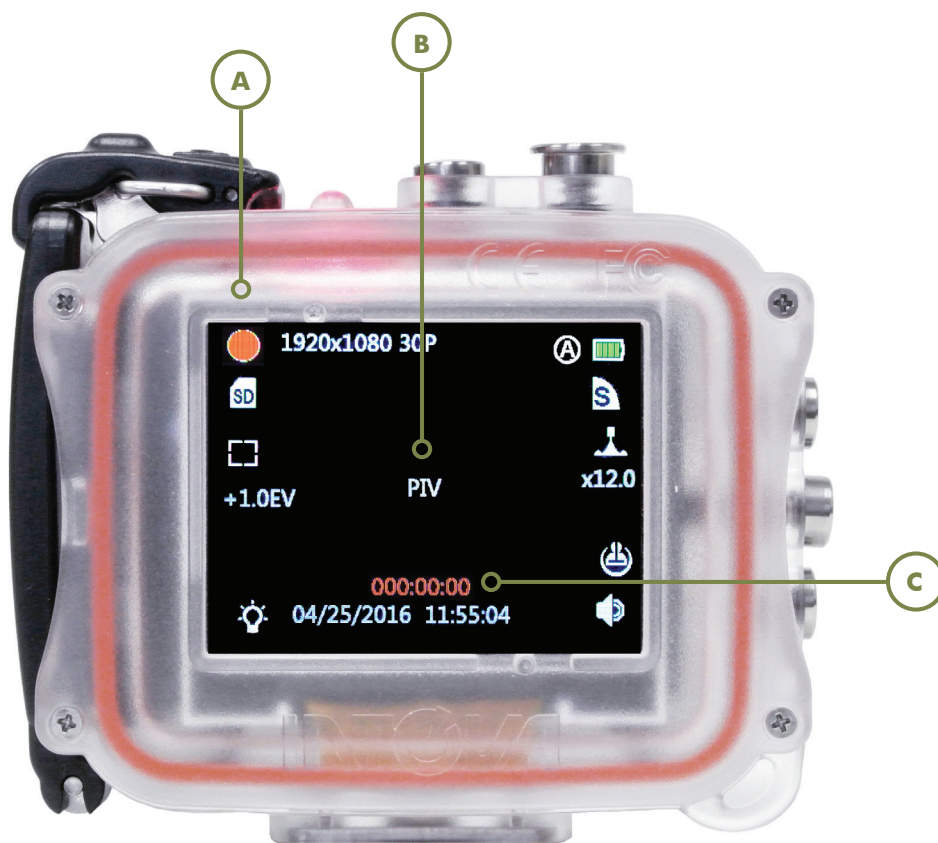


VIDEO MODE ICONS & SETTINGS

A	Video	Video mode
B	Resolution	1920X1080, 30/25 fps HD 1280x720, 60/50 fps HD 1280x720, 30/25 fps HD 848x480, 60/50 fps WVGA 848x480, 30/25 fps WVGA 640x480, 30/25 fps VGA 432x240, 30/25 fps QVGA
C	Recording Time	Remaining recording time.
D	White Balance	Auto Daylight Cloudy Fluorescent Tungsten
E	Battery	Battery level
F	Quality	Super Fine Fine Normal
G	Date Stamp	Off Date Date & Time
H	Motion Detection	Off/On (records when motion is detected in field of view. If no motion is detected after 5 seconds, recording will stop.)
I	Mute (Audio Status)	Off/On
J	Video Light	Off/On
K	Exposure Value	-2.0 to +2.0 +0.0 is the default
L	AF Mode (Metering)	Center Multi Spot
M	Loaded Micro SD	Loaded card

VIDEO STATUS SCREEN - RECORDING

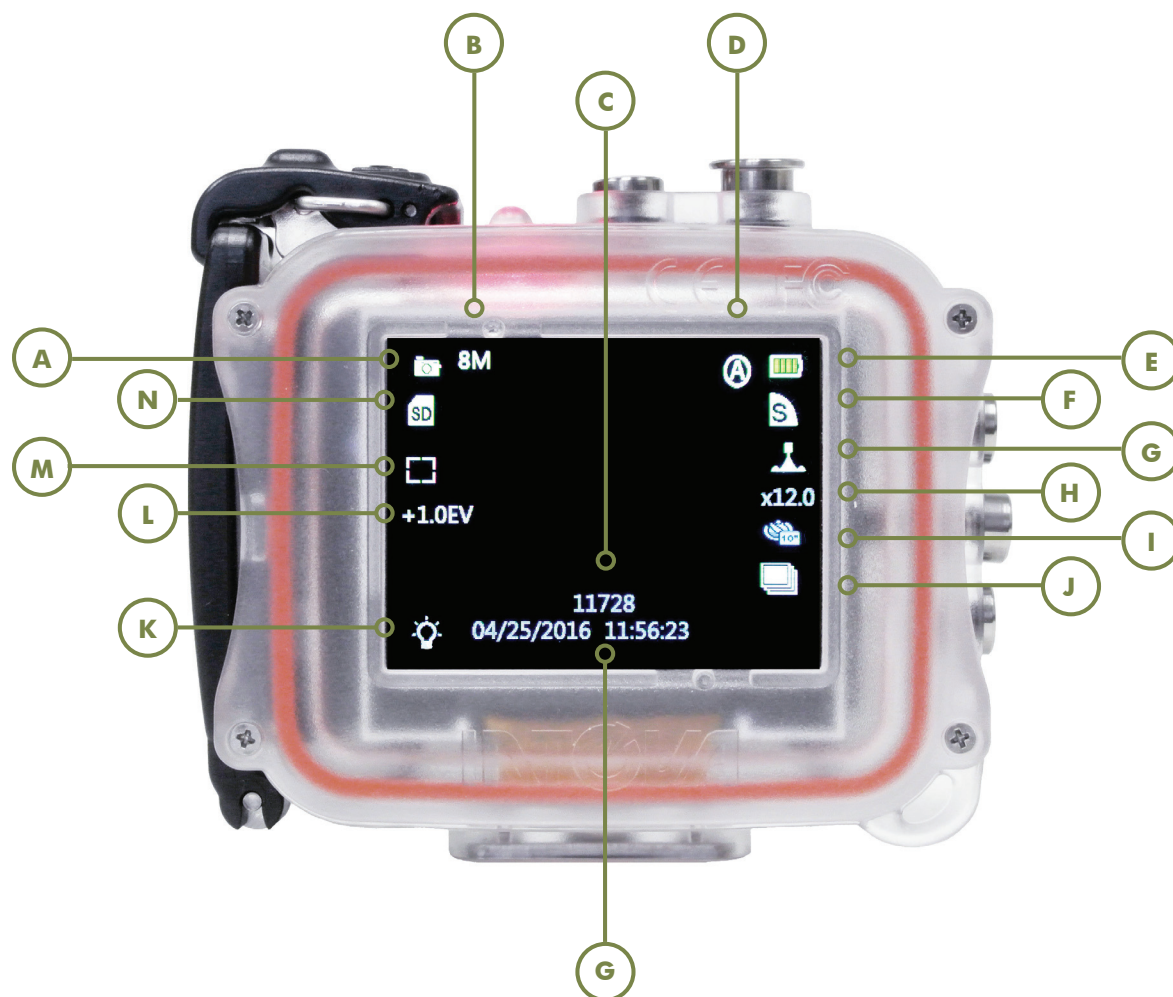
Your HD² camera displays the following information about modes and settings when recording:

**VIDEO RECORDING INDICATORS**

A	Recording Indicator (Blinking red dot)	Recording in progress
B	Picture in Video Indicator	To take a photo while recording video (picture in video), press OK button ("PIV" will appear in the middle of the LCD screen).
C	Recording Time	Length of time recording current video

PICTURE STATUS SCREEN

Your HD² camera displays the following information about modes and settings when in the Picture mode:



PICTURE MODE ICONS & SETTINGS

A Photo	Photo mode
B Resolution	12MP: 4000 x 3000 8MP: 3264 x 2448 5MP: 2592 x 1944 3M: 2048x1536
C Image Count	Remaining quantity of images at quality setting.
D White Balance	Auto Incandescent Fluorescent Sunny Cloudy Snorkeling Dive
E Battery Status	Charge level
F Quality	Super Fine Fine Normal
G Date Stamp	Off Date Date & Time
H Zoom	0-24x (digital)
I Self-Capture	3 Seconds 5 Seconds 10 Seconds
J Continuous	3, 5, 10
K Photo Flash	Off/On
L Exposure Value	-2.0 to +2.0 +0.0 is the default
M AF Mode (Metering)	Average Center Spot
N Loaded Micro SD	Loaded card

ADDITIONAL INFO ABOUT VIDEO & PICTURE SETTINGS

WHITE BALANCE

This setting improves color accuracy when the ambient light is either too cool (blue or green) or too warm (yellow/orange). Examples of cool lighting situations are cloudy day, diving at depths below 20 feet / 6 meters salt water, fluorescent light, or scenes in shade. Examples of warm lighting situations are candlelight and tungsten light. Setting choices are AUTO, INCANDESCENT (under filament lamp lighting), FLUORESCENT (under fluorescent lighting), SUNNY (daylight situations), CLOUDY (cool light situations), SNORKELING (saltwater depth between to 15 to 50 ft), DIVE (saltwater depth below 50 ft).

ISO

This setting adjusts the camera's sensitivity to light. A higher ISO value will result in a lighter video/photo and is useful in low light conditions. The choices are AUTO, 100, 200, 400, 800, 1600, 3200.

ADDITIONAL VIDEO MODE SETTINGS

Time Lapse (Records video frames with delays between each frame corresponding to selected time interval)	OFF 1 second 2 seconds 5 seconds 10 seconds, 30 seconds 1 minute
Indicator LED	Off/On
Video Duration (Records a video clip for the selected time length and continue recording video clips of the same time length one after another unless operator stops recording manually by pressing the shutter button)	ANY DURATION 3 minutes 5 minutes 10 minutes 15 minutes
Video Loop (Records after memory card is full by recording over previous video files from the beginning)	Off/On
Flicker (prevent flickering caused by fluorescent lights)	AUTO 60Hz 50Hz
Scene Mode	Off Night Sports Landscape Sunset Sand/Snow Water
Image Effect (filter)	Off Art Sepia Negative Black & White Vivid
Contrast	Standard High Low

Sharpness	Standard Enhance Soft
ISO	AUTO, 100, 200, 400, 800, 1600, 3200
Edge Correct (Corrects fish-eye effect)	Off/On

ADDITIONAL PICTURE MODE SETTINGS

Effect (filter)	Off Art Sepia Negative Black & White Vivid
Flicker	AUTO 60Hz 50Hz
Scene Mode	Off Night Sports Landscape Sunset Sand/Snow Water
Contrast	Standard High Low
Sharpness	Standard Enhance Soft
ISO	AUTO, 100, 200, 400, 800, 1600, 3200
Edge Correct (Corrects fish-eye effect)	Off/On

PLAYBACK VIDEOS/VIEW PHOTOS

Go to Playback mode by pressing the **power** button twice when in Video mode. Press **up/down** buttons to scroll through files. Press the **power** button to exit playback mode and return to video mode screen.



VIEWING FILES ON AN HDTV

1. Connect the camera to to an HDTV with a micro HDMI cable (not included) . Plug the micro HDMI plug into the camera's HD output port and the other end with USB plug into the HDTV.
2. Turn camera on and confirm that TV SYSTEM (NTSC or PAL) in SETTING Menu is matched to TV.

PLAYBACK MODE ICONS & SETTINGS

A File Number Image/Video Number

TO PLAY MOVIE CLIPS:

Play: Press **OK** button twice.

Stop: Press **OK** button.

CHANGE PICTURE VIEW:

Enlarge: Select photo you wish to enlarge. Press **OK** button.

Thumbnail view: Press the **shutter** button.

DELETING FILES

1. Press **up/down** buttons to select a file and then press the **shutter** button.
2. Press **OK** button to enter delete function.
3. Press **up/down** buttons to select **DELETE THIS FILE** or **DELETE ALL FILES**.
4. Press **OK** button to confirm choice.
5. Press **up/down** buttons to select **OK** or **CANCEL**.
6. Press **OK** to perform deletion.

BATTERY

Important: DO NOT allow Li-ion battery to become fully discharged. If not using camera for a prolonged period, recharge every 3 months to prevent battery from becoming fully discharged.

Maximizing Battery Life:

The battery icon has a line across it when the battery is very low. If the battery reaches 0% while recording, the camera saves the file and powers off. Extreme cold temperatures can decrease battery life. To maximize battery life in cold conditions, keep the camera in a warm place prior to use. Shooting at higher frame rates and resolutions increases power consumption.

The battery charges to 100% in approximately 6 hours when using a USB-compatible Wall or Auto Charger.

Battery Storage & Handling:

The camera contains sensitive components, including the battery. Avoid exposing your camera and battery to very cold or very hot temperatures. Low or high temperature conditions may temporarily shorten the battery life or cause the camera to temporarily stop working properly. Avoid dramatic changes in temperature or humidity when using the camera, as condensation may form on or within the camera.

The camera housing protects the camera from water damage. For more information, see Camera Housing. Do not turn on your camera if it is wet. If your camera is already on, turn it off. Allow the camera to dry thoroughly before using it again. Do not dry the camera with an external heat source such as a microwave oven or hair dryer. Damage to the camera caused by contact with liquid is not covered under the warranty.

Battery Disposal:

Most rechargeable lithium-ion batteries are classified as non-hazardous waste and are safe for disposal in the normal municipal waste stream. Many localities have laws in place requiring battery recycling. Check your local laws to make sure that you can dispose of rechargeable batteries in your regular trash. To safely dispose of lithium-ion batteries, protect terminals from exposure to other metal with packing, masking or electrical tape so they do not cause a fire while being transported. Lithium-ion batteries, however, do contain recyclable materials and are accepted for recycling by the Rechargeable Battery Recycling

Corporation's (RBRC) Battery Recycling Program. We encourage you to visit Call2Recycle at call2recycle.org or call 1-800-BATTERY in North America to find a convenient recycling location. Never dispose of a battery in a fire because it may explode.

WARNING: Do not drop, disassemble, open, crush, bend, deform, puncture, shred, microwave, incinerate or paint the camera. Do not insert foreign objects into the battery opening on the camera. Do not use the camera or the battery if it has been damaged—for example, if cracked, punctured or harmed by water. Disassembling or puncturing the battery can cause an explosion or fire.

HOUSING MAINTENANCE

Rinse housing in cool clean water after use.

Inspect O-ring carefully prior to each use: any debris on O-ring can cause leakage.

Store in a cool dry area with housing door slightly open to prevent O-ring deforming.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Camera will not turn on	Battery not charged	Use supplied USB cable and connect to powered-on computer to charge.
Camera freezes, does not operate correctly or shows "card error" message on LCD.	MicroSD card is improper size or has files on it recorded on another device.	Use microSD card maximum size 32GB (class 10 recommended). Format card if it has files on it from another device.
Photos are blurry	Moving or shaking camera when taking photo.	Hold camera as steady as possible when taking a photo or use a tripod.
Video are shaky or shows motion blur.	Moving camera in with shaking motion or panning too fast.	Move camera in even slow movements when taking videos.
Camera is not recognized by computer when plugged in via USB cable.	Connection failure or defective USB cable.	Check to make sure connections are secure, restart computer or try another USB cable.
Camera turns off by itself after a few minutes.	Power save is set to 1, 3 or 5 minutes or battery charge level is low.	Turn off power save function in camera's menu or make sure battery has sufficient charge.

SUPPORT

www.intova.com
 info@intova.net
 1 (808) 837-0074

INTOVA IS PART OF A FAMILY OF BRANDS:

Industrial Revolution, Inc.
 5835 Segale Park Dr. C.
 Tukwila, WA 98188
www.industrialrev.com