DUB USER MANUAL

Thank you for purchasing the Intova DUB Action Camera! The rugged and waterproof DUB will help you capture high quality video and photos in many different venues and environments. Please read this user manual carefully for usage instructions and maintenance tips.

Enjoy!

INTOVA

DUB TABLE OF CONTENTS

DUB PREFACE

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.

MINIMUM COMPUTER SYSTEM REQUIREMENTS FOR VIEWING AND EDITING (1920X1080 30P) VIDEO

PC	Mac
Windows 7, 10	Mac OS 10.10.X or later
1st generation Intel® Core™ processor family	1st generation Intel® Core™ processor family
Monitor that can display 1920x1080 resolution	Monitor that can display 1920x1080 resolution
Integrated Graphics solutions or a discrete graphics card that support 1920x1080 displays*	Integrated Graphics solutions or a discrete graphics card that support 1920x1080 displays*
8GB RAM	8GB RAM
Software to playback 1920x1080 video	Software to playback 1920x1080 video
Software to edit 1920x1080 video	Software to edit 1920x1080 video
*For graphics hardware, refer to computer manufacturer's recommendation.	

PRECAUTIONS

• A microSD card up to 32GB maximum size and class 10 speed (minimum 10MB/s) must be properly inserted into the DUB camera's card port before use.

• If using a microSD card that was previously used in a different digital device, FORMAT memory card in a computer and not in the camera prior to use since previously existing files on a memory card may cause camera to malfunction. **Save any needed files to a computer before formatting.**

• Use supplied micro USB cable plugged into a computer's USB port to recharging camera's li-ion battery. If using a USB wall plug adapter, the USB output must be 5V DC and 1A. Using a different output voltage can cause damage to the camera and is not covered under warranty.

• If camera is not used for a prolonged period of time, the li-ion battery must be recharged periodically (to full charge at least once a year) to maintain operating ability. Allowing total discharge of the battery may cause it to become non-functional and is not covered under warranty.

• O-ring on the waterproof housing'a door must be properly maintained by inspecting and removing any dirt, sand, hair, debris, etc. before and after use.

• Apply minimal amount of silicone grease to O-ring only when necessary. Too much silicone grease applied at one time or a build up of excess silicone grease can lead to leakage and is not covered under warranty.

• Do not leave or store the camera in direct sunlight. Prolonged exposure to direct sunlight can damage the camera and is not covered under warranty.

• Do not aim camera directly into the sun for a prolonged period since this can damage the image sensor and is not covered under warranty.

• Store camera in a cool, dry environment.

• Clean the housing after each use by rinsing it in cool clean running water to remove any salt, dirt, sand, debris, etc. Be sure that the camera is in the housing and the waterproof door is properly closed and sealed before rinsing.

• Do not use any solvents such as alcohol, acetone, etc. to clean the camera. This will cause damage and is not covered under warranty.

DUB SPECIFICATIONS

Sensor type	1/ 2.3" 8MP CMOS
LCD Screen size	1.5" TFT-LCD
LCD Screen resolution	480x240 pixels
Video resolution, frame rate and aspect ratio	1920x1080 30fps 16:9 1280x720 60fps 16:9 1280x720 30fps 16:9
Video format	MOV
Photo file size, pixel dimensions and aspect ratio	12M 4000x3000 (interpolated) 8M 3264x2448 (actual) 5M 2560x1920 (actual) 3M 2048x1536 (actual) 2M 1600x1200 (actual) VGA 640x480 (actual)
Photo file format	JPG
Field of view	D=120°, H=108°
Aperture	F2.5
Focus Mode	Fixed focus
Focus range	1.0m to infinity
ISO	Auto, 50, 100, 200, 400, 800, 1600
Metering modes	Center, Multi, Spot
Time Lapse mode	3 sec, 5 sec, 10 sec, 30 sec, 1 min, 5 min
Motion Detection mode	Yes
Stabilizer mode	Yes
Slow motion mode (video only)	Yes
Photo Burst mode (photo only)	3, 5, 10 frames per shutter button press
White Balance modes	Auto, Daylight, Cloudy, Fluorescent, Tungsten
Self Timer (photo only)	2 seconds, 10 seconds
Built-in microphone	Yes
Battery life	Approx. 2 hours when video recording at 1920x1080 30fps with LCD off
Battery voltage/capacity	3.7V/ 1100mAh
Charging input	DC 5V/1A USB port
Charging time	Approx. 6 hours
Ports	microSD card port, micro USB 2.0, mini HDMI TV out
Depth rating of housing	Waterproof to 200 feet / 60M
Buoyancy	Positive
Operating temp	-10°C to 55°C/14°F to 131°F
Tripod mount	1/4" 20
Weight: camera and housing	5.8 oz./164 g
Weight: housing only	3.3 oz./93 g
Weight: camera only	2.5 oz./71 g
Dimensions: camera only	2.4" x 0.9" x 1.6" /6 cm x 2.2 cm x 4.1 cm
Dimensions: housing	3.6" x 2.4" x 2.1"/9.3 x 6 x 5.3 cm
Memory	microSD card maximum 32GB size and minimum 10MB/s type U1 card speed required for 1080p video (not included)
Included Accessories	Micro USB cable, lanyard, quick start guide

Product specifications are subject to change without notice. For more information, visit www.intova.com

DUB *CAMERA BUTTONS AND INTERFACE*
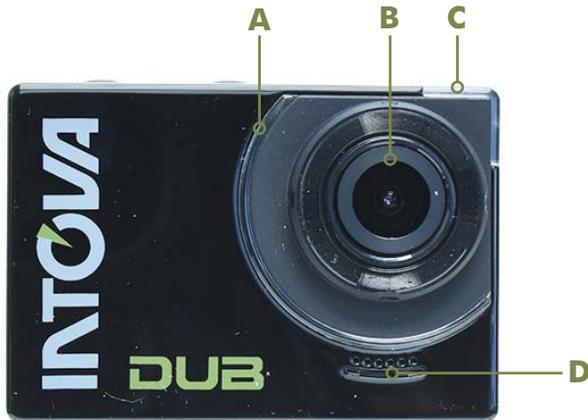
A. Indicator LED
>>LED is blue when camera is turned ON.
>>LED is blue and blinking when video is being recorded.

B. Lens Port

C. Indicator LED
>>LED is blue when camera is turned ON.
>>LED is blue and blinking when video is being recorded.

D. Speaker

E. OK button
>>Confirm choice.
>>In Photo mode: press to take a photo.
>>In Playback mode: start video playback.

F. MENU Button
>>Access Menu.
>>In Playback mode: stop video playback.
>>In Playback mode: access/exit LOCK and DELETE functions.

G. LCD screen

H. UP Button
>>Scroll to select: menu function and function choice.
>>In Playback mode: scroll through files.

I. DOWN Button
>>Scroll to select: menu function and function choice.
>>In Playback mode: scroll through files.
>>One touch LCD off/on.

J. Mini HDMI Port
>>Connect a mini HDMI cable (not included) between camera and an HDTV to allow playback of videos and view photos on HDTV screen.

K. Micro SD card port
>>DUB requires a properly inserted microSD card (not included) up to 32GB size maximum and class 10 (10MB/s) speed minimum for 1080p video recording.

L. Micro USB Port
>>Use mini USB cable to connect camera to a computer to download images (MSDC mode), charge li-ion battery and to use camera while powered via the computer or an external power source.

DUB
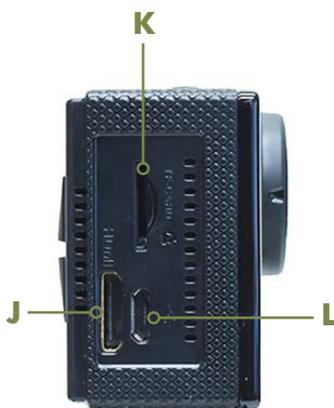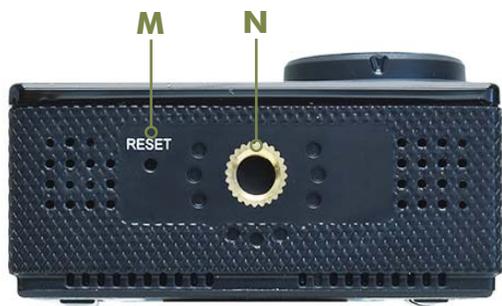
M. RESET
>>If camera stops operating (becomes frozen), insert the end of a paper clip into the RESET hole and carefully and slowly push to press the internal switch until you feel it "click" to reset the camera.

N. ¼-20 Mount
>>Allows the camera to be mounted on a tripod or other mounts that have a standard 1/4" 20 tripod screw.

O. Microphone
>>Built-in microphone for capturing audio during video recording. For better audio on land/in air, use the camera outside of the housing.

P. MODE, MENU Toggle Button
>>Select Video/Photo/View mode (quick press). >>Quickly press and release the button when in the video, photo or playback menu (and there is no menu item/function highlighted in blue) to switch (toggle) to SETTINGS menu (gear icon) and back to the video, photo or playback menus.

Q. POWER and SHUTTER button
>>Power camera on/off (press & hold 2 seconds). >>Video mode: press to start/stop recording. >>Photo mode: press to take photo.

R. Indicator LED
>>LED is red and stays ON while charging and OFF when charging is complete. >>LED is blue when camera is turned ON. >>LED is blue and blinking when video is being recorded.

DUB

HOUSING BUTTONS AND INTERFACE
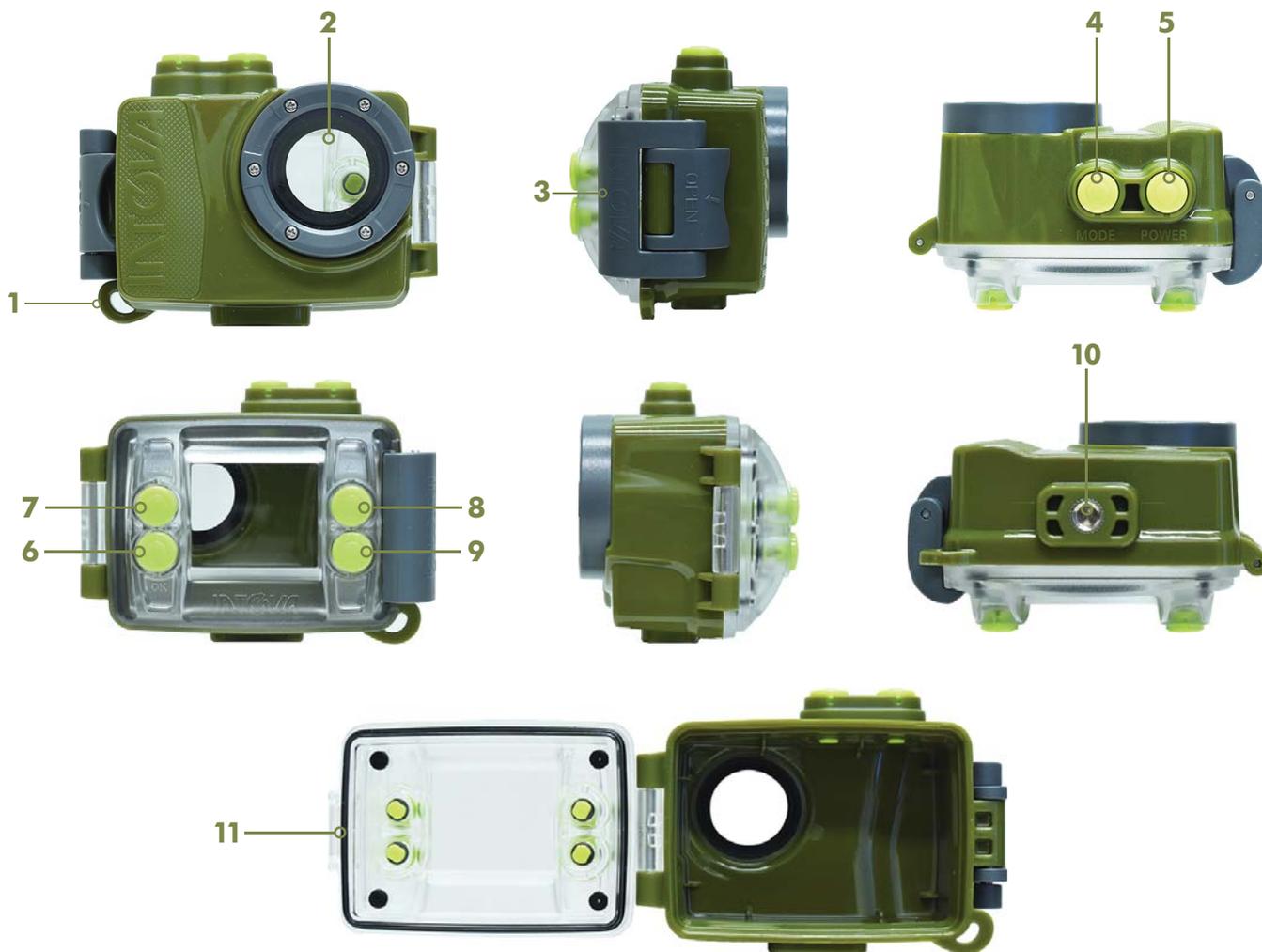
1. Lanyard attachment
>>Attach the supplied lanyard to secure DUB to your wrist. The DUB housing with camera inside is positively buoyant (floats).

2. Lens Port

3. Lock Latch
>>Secures camera housing. Use thumb press mechanism to open back door in case of vacuum seal by pushing down on part opposite from the word "OPEN".

4. MODE/MENU toggle button

5. POWER and SHUTTER button

6. OK button

7. MENU button

8. UP button

9. DOWN button

10. Tripod Mount
>>Allows the housing (with camera) to be mounted on a tripod or other mounts that have a standard 1/4" 20 tripod screw.

11. O-ring
>>O-ring on waterproof door must be properly maintained by inspecting and removing any dirt, sand, hair, debris, etc. before and after use. Apply minimal amount of silicone grease to O-ring only when necessary. Too much silicone grease applied at one time or a build up of excess silicone grease can lead to leakage and is not covered under warranty.

DUB GETTING STARTED

OPENING THE HOUSING
>>Unlock Housing: Flip the housing lock (marked by OPEN) away from the housing and unhook the latch from the back door. Push the thumb press mechanism (on the opposite side of the word "OPEN" to pop open backdoor if there is a vacuum seal.

>>Lock Housing: Close back door, hook latch and push lock towards housing.

CHARGING LI-ION BATTERY
>>Prior to charging, remove the camera from its housing.

>>Charge the battery by connecting the camera to a computer or other USB charging adapter using the included micro USB cable. When the camera turns on, press the power button to turn camera off. The LED indicator light on top of the camera changes from blue to red to indicate that the battery is charging and turns off when charging is complete.

>>When charging with a computer, be sure that the computer is connected to a power source.

>>The camera does not come fully charged. No damage occurs to the camera or battery if used without a full charge.

INSERT MICRO SD CARD
>>The DUB camera requires a microSD memory card (not included) up to 32GB maximum size and class 10 (10 MB/s) speed minimum for recording 1080p video.

>>Insert the microSD card: Slide the memory card into the card slot with the label facing the front of the camera. When fully inserted, the card clicks into place. To remove the microSD card, place your fingernail against the edge of the memory card and lightly press it further into the camera. The card springs out far enough to be removed.

>>Use care when handling memory cards. As a precaution, power off the camera before inserting or removing the card.

POWER ON/OFF
>>Power-on: press and hold POWER button for 2 seconds to turn camera ON.

>>Power-off: press and hold POWER button for 2 seconds to turn camera OFF.

CHOOSE MODE
>>The camera is equipped with three modes: video, photo and playback. The default mode is video.

>>To change between modes, quickly press and release the MODE button.

TAKE AN IMAGE
>>Press SHUTTER button while in either video or photo mode to start/stop video recording or take a photo.

TRANSFERRING IMAGES TO A COMPUTER
>>Plug the camera with inserted microSD card that has images into a computer using the supplied micro USB cable. The LCD will show "MSDC" with an exclaimation mark in a blue triangle. A pop-up box will be displayed on the computer showing the JPG (photo files) and VIDEO files folders (Windows OS) or a program such as iPhoto will be activated to transfer images to the computer (Mac OS).

ALERTS & IMPORTANT MESSAGES
>>MicroSD card not inserted: No Card! error message indicates that there is no memory card inserted. A microSD card (not included) is required to capture videos, photos and to playback images. Insert microSD card while the camera is OFF.

>>Operation indicator: The LED light on top and front of camera illuminates blue when the camera is turned on, connected to a computer to download images, and blinks when recording video.

>>LED Battery Charging indicator:

Put camera into charge mode by connecting camera via supplied micro USB cable to a computer's USB port. Camera will turn on and LED battery charging indicator on top of the camera will be blue. Turn camera OFF by pressing POWER ON/OFF button. LED should turn red to indicate that the battery is being charged and go OFF when the battery is fully charged. Charge time can be up to 6 hours.

DUB VIDEO MODE

VIDEO MODE SCREEN

The DUB camera LCD displays the following information about functions and settings when in video mode.
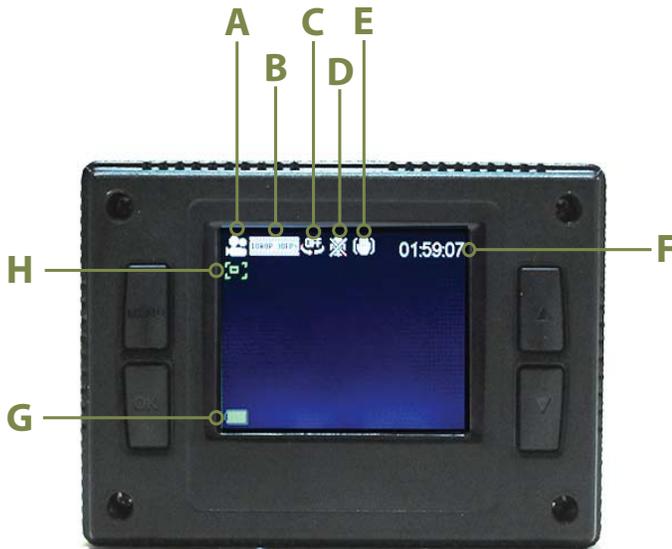
A. Video mode icon

B. Video resolution icon: indicates vertical pixel dimensions and frame rate.

C. Loop recording icon: sets the camera to record a video clip for a selected time length in minutes and to continue recording video clips of the same time length one after another unless operator stops recording by pressing the SHUTTER button. Choices are OFF, 1 MIN, 3 MIN and 5 MIN. Factory default is OFF.

D. Voice recorder icon: "X" on microphone icon indicates audio recording OFF. Factory default is ON.

E. Stabilizer icon: Circle with line through icon indicates image stabilizer is OFF. Factory default is ON.

F. Video recording time remaining: shows the amount of time remaing on microSD card to record video in hours, minutes and seconds.

VIDEO RECORDING SCREEN

The X4K camera LCD displays the following information about functions and settings when recording video.

G. Battery level icon: indicates amount of battery charge remaining. Recharge battery when icon turns red.

H. Motion detection mode: presence of icon indicates motion detection activated. Factory default is OFF.

I. Video recording time: indicates length of video being recorded in hours, minutes and seconds.

J. Video recording indicator: blinking red "REC" indicates video is being recorded.

K. PAUSE: press UP button to pause video recording and UP button again to resume video recording.

DUB VIDEO MODE MENU

While in video mode, press the MENU button to enter menu selection screen. Use the UP or DOWN navigation buttons to highlight a menu item and press OK button to access and adjust or activate various video functions.

1. MOVIE SIZE: sets the video recording's pixel dimensions and frame rate. Choices are 1920x1080 (30fps), 1280x720 (60fps) and 1280x720 (30fps). Factory default resolution is 1920x1080 (30fps).

2. WHITE BALANCE: adjusts color balance for various lighting situations.
   a) AUTO: normal exposure/factory default.
   b) DAYLIGHT: adjusts imagery to cooler (blue/cyan) color balance for warm outdoor lighting.
   c) CLOUDY: adjusts imagery to warmer color balance for scenes with cool outdoor lighting.
   d) FLUORESCENT: adjusts imagery to warmer color balance for scenes with fluorescent lighting.
   e) TUNGSTEN: adjusts imagery to cooler (blue/cyan) color balance for scenes with warm (red/yellow) indoor lighting.

3. VIDEO QUALITY: sets video quality between SUPER FINE, FINE and NORMAL compression. Factory default is SUPER FINE.

4. STABILIZER: sets the electronic image stabilization to ON or OFF. Stabilizer function is only effective to reduce only very small vibration such as during video recording while walking with the camera. Factory default is ON.

5. VOICE REC: turns microphone ON to record sound during video recording or OFF for no audio. Factory default is ON.

6. LOOP RECORDING: sets the camera to record a video clip for a selected time length in minutes and to continue recording video clips of the same time length one after another unless operator stops recording by pressing the SHUTTER button. Choices are OFF, 1 min, 3 min and 5 min. Factory default is OFF.

7. MOTION DETECT: sets camera to start recording video automatically when motion is detected in its field of view. Video will be recorded for 5 seconds and stop if no other motion is detected. Factory default is OFF.

8. SLOW MOTION: allows a "slow motion" video clip to be created without the need for post production in a video editing software. Factory default is OFF.

9. TIMELAPSE: sets the camera to record video clips with delays between each frame corresponding to selected time interval in seconds or minutes. This produces a time lapse video without the need for post production. Setting choices are OFF, 3 sec, 5 sec, 10 sec, 30 sec, 1 min and 3 min. Factory default is OFF.

10. TIMELAPSE DURATION: when timelapse function is activated this function can be accessed to set the length of the timelapse video. Choices are OFF (Unlimited), 3 min, 5 min, 10 min, 15 min, 20 min, 30 min and 60 min. Factory default is OFF.

11. DATE STAMP: sets the date only or date and time on the video clip which is visible during playback. Setting choices are OFF, DATE, and DATE/TIME. Factory default is OFF.

DUB

PHOTO MODE SCREEN

Press MODE button while in Video mode to go to Photo mode.The DUB camera LCD displays the following information about functions and settings when in photo mode.
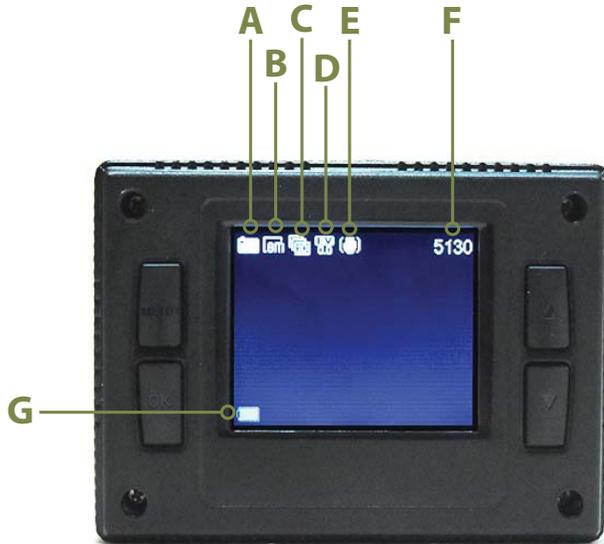
A. Photo mode icon

B. Photo resolution icon: indicates photo file size in megabytes.
12M is 4000x3000 pixels (interpolated)
8M is 3264x2448 pixels (actual)
5M is 2560x1920 pixels (actual)
3M is 2048x1536 pixels (actual)
2M is 1600x1200 pixels (actual)
VGA is 640x480 pixels (actual)

C. Photo Burst:
presence of the icon [10] indicates that the camera will take 3, 5 or 10 photos per shutter press. Factory default is OFF.
or **Self-Timer:** presence of the icon [10s] indicates that the camera is set to take a photo with a time delay of 2 or 10 seconds after pressing of SHUTTER button.

D. Exposure value: indicates that camera is set to an exposure compensation value between -2.0EV (underexposure) to +2.0EV (overexposure). Factory default is 0.0.

E. Stabilizer icon: Circle with line through icon indicates image stabilizer is OFF. Factory default is ON.

F. Photos remaining: number indicates the remaining amount of photos available to be taken on the microSD card.

G. Battery level icon: indicates amount of battery charge remaining. Recharge battery when icon turns red.

DUB PHOTO MODE MENU

While in photo mode, press the MENU button to enter menu selection screen. Use the UP or DOWN navigation buttons to highlight a menu item and press OK button to access and adjust or activate various photo functions.

1. RESOLUTION: sets the photo file size's pixel dimensions. Choices are: 12M, 8M, 5M, 3M, 2M and VGA. Factory default is 8 megapixel (3264x2448).

2. WHITE BALANCE: adjusts color balance for various lighting situations.
> **a) AUTO:** normal exposure/factory default.
> **b) DAYLIGHT:** adjusts imagery to cooler (blue/cyan) color balance for warm outdoor lighting.
> **c) CLOUDY:** adjusts imagery to warmer color balance for scenes with cool outdoor lighting.
> **d) FLUORESCENT:** adjusts imagery to warmer color balance for scenes with fluorescent lighting.
> **e) TUNGSTEN:** adjusts imagery to cooler (blue/cyan) color balance for scenes with warm
> (red/yellow) indoor lighting.

3. IMAGE QUALITY: sets photo quality between SUPER FINE, FINE and NORMAL compression. Factory default is SUPER FINE.

4. METERING: selects the general area in a scene that the cameras uses when estimating exposure. CENTER mode uses an area towards the middle of the scene. MULTI mode uses the overall area in a scene. SPOT uses a very concentrated area in the middle of the scene. Factory default is CENTER.

5. SHARPNESS: setting increases or decreases image sharpness. Select HARD to increase sharpness and SOFT to decrease sharpness. Factory default is NORMAL.

6. ISO: adjusts the camera's sensitivity to light. The default setting is AUTO. A higher ISO number will result in a better exposure for video/photo and is useful in low light conditions. The choices are AUTO, 50, 100, 200, 400, 800, and 1600.

7. EXPOSURE: adjusts the brightness or darkness of the imagery between ±2 stops. Setting to positive values will brighten exposure, while negative values will darken exposure. Factory default is 0.0.

8. STABILIZER: sets the electronic image stabilization to ON or OFF. Stabilizer function is only effective to reduce very minor vibration that can cause motion blur when taking a photo. Factory default is ON.

9. AUTO REVIEW: sets the amount of time an image of the photo that was taken remains for viewing on the LCD screen before returning to live view. Setting choices are OFF, 1 sec, 3 sec and 5 sec. Factory default is OFF.

10. SELF-TIMER: sets time delay in seconds between pressing of SHUTTER button and taking of photo. Factory default is OFF. To activate self-capture:
> **a.** In PHOTO menu highlight "Self-Timer" and press OK button to enter function.
> **b.** Select 2S (2 sec) or 10S (10 sec) and press OK button to confirm.
> **c.** Press MENU button to exit menu and LCD screen should show self-timer [icon] icon.
> **d.** Press SHUTTER button to start timer.

11. PHOTO BURST: sets photo mode at 3, 5, 10 continuos photos per shutter button press. Factory default is OFF.

12. TIMELAPSE: sets the camera to record video clips with delays between each frame corresponding to selected time interval in seconds or minutes. This produces a time lapse video without the need for post production. Setting choices are OFF, 3 sec, 5 sec, 10 sec, 30 sec, 1 min and 3 min. Factory default is OFF.

13. TIMELAPSE DURATION: when timelapse function is activated this function can be accessed to set the length of the timelapse video. Choices are OFF (Unlimited), 3 min, 5 min, 10 min, 15 min, 20 min, 30 min and 60 min. Factory default is OFF.

14. DATE STAMP: sets the date only or date and time on the video clip which is visible during playback. Setting choices are OFF, DATE, and DATE/TIME. Factory default is OFF.

DUB SETTINGS MENU

While in video or photo mode, press the MENU button to enter the menu selection screen. Quickly press and release the MODE button to toggle between VIDEO/PHOTO menu and SETTINGS menu (gear icon) to adjust or activate various other functions.

1. SOUNDS: sets various camera sounds. Use the MODE button to adjust when item is highlighted.
> **a) Shutter:** turns "shutter" sound ON or OFF.
> **b) Start-up:** sets the start-up sound when camera is turned ON or OFF. Choices are 1, 2, 3 and None. Factory default is 1.
> **c) Beep:** sets beep sound when pressing camera buttons to ON or OFF. Factory default is ON.
> **d) Volume:** sets volume of beep sound. Choices are 0, 1, 2 and 3. Facotry default is 2.

2. BACK LIGHT: turns off LCD after a selected time even if camera is being actively used such as recording a video. Choices are ON (LCD stays ON), 1 min, 3 min and 5 min. Press any button to turn LCD back on. This feature conserves battery power. Factory default is ON (LCD stays ON).

3. LED: turns ON or OFF the LED indicator lights. Factory default is ON.

4: POWER SAVE: sets camera to power off after a selected time if not being actively used. Choices are OFF (camera stays ON), 1 minute, 3 minutes and 5 minutes. Use this feature to conserve battery power. Factory default is OFF.

5. DATE & TIME: allows current date and time and also the date format between YY/MM/DD, DD/MM/YY and MM/DD/YY to be set. Press OK button to enter setting. Press UP or DOWN button to change number and press MODE button to scroll to next. When done, press OK button to confirm and exit function.

6. LANGUAGE: function choices are EN (English), DE (Deutsch), IT (Italiano), ES (Español), PT (Português), NL (Nederlands) and FR (Français). Factory default is EN (English).

7. POWER FREQUENCY: setting allows the camera to be adjusted to 60Hz or 50Hz to prevent video flickering from fluorescent lights. Factory default is 60Hz.

8. USB: allows camera's USB port to be set for a function when connected to a computer via the supplied micro USB cable.
The choices are:
> **a) MSDC:** to transfer files bewteen camera and computer.
> **b) UVC:** (USB Video device Class) to use DUB as a PC Cam.

Factory default is MSDC.

9. FORMAT: function erases all files from the microSD card. **WARNING: Format will erase all data from card. Save to a computer any files that are needed prior to formatting card!**

10. RESET ALL: allows all camera settings to be reset to factory default.

PLAYBACK MODE SCREEN

The DUB camera LCD displays the following information about functions and settings when in playback mode and menu. Press MODE button while in Photo mode to go to Playback mode.

1. Playback mode choice screen. With "Video File" highlighted in blue, press OK button to access video files. Press MODE button to exit playback mode and go to video recording mode.

2. Press UP or DOWN button to scroll through files and press OK button to begin video playback. Press UP button to PAUSE video and press UP button again to resume. When done viewing, press MODE button to go back to playback choice screen.

3. While in file viewing screen, press MENU button to access video playback menu to either lock file(s) or delete file(s). Any file that is locked must first be unlocked in order to delete it. To go back to file view screen press MENU button.

4. Playback mode choice screen. With "Photo File" highlighted in blue, press OK button to access photo files. Press MODE button to exit playback mode and go to video recording mode.

5. Press UP or DOWN button to scroll through and view photo files. Press OK button to begin photo slide show. Press MENU button to stop slideshow. When done viewing, press the MODE button to go back to playback choice screen.

6. While in file viewing screen, press MENU button to access photo playback menu to lock file(s), delete file(s), adjust the slideshow, rotate photo, resize photo. Any file that is locked must first be unlocked in order to delete it. To go back to file view screen press MENU button.

CONNECTING TO AN HDTVTO VIEW FILES

Connect the DUB camera to an HDTV with a mini HDMI cable (not included). Insert the mini HDMI plug into the camera's HDMI out port and the other end with the standard HDMI plug into the HDTV's HDMI input port and go to playback mode to view files. While the camera is plugged into the HDTV, the LCD screen on the back of the camera will go blank. The HDTV can also be used for live view while in either video or photo mode. Videos can be recorded and also photos can be taken using the HDTV for live view instead of the camera's LCD.

LI-ION BATTERY

• If camera is not used for a prolonged period of time, the li-ion battery must be recharged periodically (to full charge at least once a year) to maintain operating ability. Do not allow battery to become total discharged which can cause it to become non-functional and is not covered under warranty.
• Do not expose the battery (and camera) for prolonged periods of time to temperatures outside the recommended range of -10°C to 55°C/14°F to 131°F. Exposure to extreme cold or heat can shorten battery life or damage the battery and is not covered under warranty.
• Do not allow the camera's internal battery and components to become wet or exposed to high humidity, etc. which can cause corrosion resulting in damge and is not covered under warranty.
• Do not disassemble camera in order to remove the battery. Damaging, puncturing, shredding, etc. the battery which can cause an explosion or fire. There are no user servicable parts inside the battery (or camera). Do not use the camera if the battery is damaged.
• Store the battery (and camera) in a cool dry environment.

BATTERY DISPOSAL

• Dispose of the camera and its rechargeable li-ion battery according to local laws. Many localities require electronics to be recycled. In the USA, please visit https://www.call2recycle.org/ for more information on recycling locations. **Never dispose of a battery in a fire because it may explode.**

O-RING

• The O-ring on the waterproof housing door must be properly maintained by inspecting and removing any dirt, dust, sand, hair, debris, etc. before and after use.
• Use a soft lint free cloth moistened with water to clean the O-ring. DO NOT use any solvents such as alcohol, acetone, etc. to clean the O-ring. This will cause damage and is not covered under warranty.
• Do not remove the O-ring from the door unless it becomes necessary to clean under the O-ring such as when the housing is accidentally dropped on the ground with the door open and dirt becomes trapped between the O-ring and the door groove. Repeatedly removing the O-ring can cause it to become stretched out. This can lead to the O-ring becoming crimped or pinched when the door is closed and result in flooding and damage to the camera and is not covered under warranty.
• Apply minimal amount of silicone grease to the O-ring only when necessary. Too much silicone grease applied at one time or a build up of excess silicone grease can lead to leakage and is not covered under warranty.
• Use only 100% silicone grease made for O-rings. Use only one drop of grease on an applicator swab and apply it to the surface of the O-ring. The purpose of silicone grease is to lubricate and moisturize the O-ring to keep it from drying out and cracking and does not function to keep water out of the camera. It is the O-ring itself that provides the waterproof seal.
• If it becomes necessary to replace the O-ring, please use a proper O-ring tool to remove and replace the O-ring. Extra O-rings can be ordered by calling 1-888-297-6062 (USA only) or +1-425-285-1111.

CAMERA HOUSING/CAMERA

• The DUB camera housing is waterproof to 200 ft/60 meters but the internal camera is not waterproof.
• Clean the housing after each use by rinsing it in cool clean running water to remove any salt, dirt, sand, debris, etc. Be sure that the camera is in the housing and the waterproof door is properly closed and sealed before rinsing.
• Do not use any solvents such as alcohol, acetone, etc. to clean the housing or camera. This will cause damage and is not covered under warranty.
• Use a soft lint free cloth to dry the housing/camera and store it in a cool dry environment.
• Do not drop, disassemble, crush, puncture, shred, microwave, etc. the camera which can lead to electric shock. There are no user servicable parts inside the camera. Do not use the camera if it is damaged.

DUB TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE(S)	POSSIBLE SOLUTION(S)
Camera will not turn ON.	1. Battery not charged. 2. Defective battery.	1. Use supplied USB cable to charge the li-ion battery. 2. Email or call tech support (see below).
LCD show "No Card!".	1. A microSD card has not been inserted into the camera's card port. 2. Defective card port.	1. Insert a microSD card up to 32GB in size maximum and minimum 10MB/s speed (class 10/type U1 card). 2. If a proper card has been inserted and the error still remains, then email or call tech support (see below).
LCD show "Card Error".	1. A proper microSD card has not been inserted into camera's card port. 2. Defective card port.	1. Use a microSD card up to 32GB in size maximum and minimum 10MB/s speed (class 10/type U1 card). 2. If a proper card has been inserted and the error still remains, then email or call tech support (see below).
Camera freezes/becomes inoperable.	1. Proper microSD card not being used. 2. Card has existing files from another digital device (other than an X4K) on it. 3. Defective hardware or corrupted firmware.	1. Use a microSD card up to 32GB in size maximum and minimum 10MB/s speed (class 10/type U1 card). 2. Files from another digital device can be incompatible and cause camera to become inoperable. Format card (in a computer and not in the camera) before using. **Save any needed files to a computer before formatting.** 3. If the camera still freezes after trying both or either of the above, then email or call tech support (see below).
Camera will not turn ON when plugged into a computer via micro USB cable.	1. Defective micro USB cable. 2. Defective micro USB port.	1. Try a different micro USB cable. 2. If a different micro USB cable does not work, email or call tech support (see below).
Camera is not recognized by the computer when when plugged in via micro USB cable.	1. Defective micro USB cable. 2. Defective micro USB port. 3. Computer "AUTO PLAY" settings not configured.	1. Try a different micro USB cable. 2. If a different micro USB cable does not work, email or call tech support (see below). 3. Check computer's "AUTO PLAY" settings and configure it to recognize a digital device such as a camera, etc. If the settings are configured and the computer still does recognize the camera, then email or call tech support.
Camera does not go into MSDC mode when plugged in via the micro USB cable to a computer.	1. Defective micro USB cable. 2. Defective micro USB port.	1. Try a different micro USB cable. 2. If a different micro USB cable does not work, email or call tech support (see below).
Computer does not recognize or is unable to play video files.	1. Computer does not have codec file for MOV video format installed. 2. Computer does not have software that can play the MOV video file format.	1. Install MOV video format codec into computer. Please see computer operating system's website for information on video codecs. 2. Install software that can play MOV video file format.

INTOVA IS PART OF A FAMILY OF BRANDS:

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

Need help using your camera?
WE ARE HERE FOR YOU.
Visit our website:
www.intova.com
Email customer/tech support:
tech@intova.net
Call customer/tech support:
+1 425-285-1111
+1 888-297-6062 (USA only)