INTOVA

Born in Hawaii – Built for the World

ConneX

Waterproof HD Video Camera with Hardwire Port

User's Manual

Table of Contents:

PREFACE

Thank you for purchasing the Intova ConneX waterproof video camera! ConneX features a waterproof hardwire port that allows cable connection up to 300 feet. Cable is available in either HD (component) or VGA (composite) format and provides live video output and 12 volt DC power input. The system is compatible with many Marine Electronics monitors or Intova's 7" water resistant 12 volt DC monitor. A 2.4G remote is included for surface control of camera. NOTE: The remote does not function below water and is only waterproof to 6 feet. The rugged, durable and waterproof ConneX provides new and unmatched functionality for many different uses. Visit www.intova.net to view the wide range of mount and system options available. Enjoy!!

Main features:

- Video Resolution:
  1080p@30fps,
  720p@60fps, 720p@30fps
  (WVGA)848x480p@60fps, 848x480p@30fps
  VGA
- Photo Resolution:
  12MP, 8MP, 5MP and 3MP
- Waterproof hardwire port for power in and live video out.
- Rugged polycarbonate housing
- Waterproof to 330 feet / 100M
- 140 degree Wide-angle lens
- 4x Digital Zoom
- Uses same filters and lenses as EDGE X and NOVA HD
- 2.4G remote (for above water use only)
- 1.5" / 3.8cm TFT-LCD 480x240
- Rechargeable Li-ion battery 1450mAh
- Micro USB charger/download port
- Battery life: 2.0 hours (LCD on), 3 hours (LCD off)
- Diving Mode
- Motion Detection Mode
- Time Lapse mode
- Self-capture mode
- Burst Mode: 3, 5, 10 photos
- Video Rotation Mode (rotate video 180° when camera is mounted upside down)
- Manual White Balance
- Picture in Video (take photo at same time as video recording by pressing OK button)
- Video recording LED indicator- blinking red light in front and blinking blue light on top
- Audible record alert
- Camera floats
- High Definition TV output
- Video codec: H.264 / Video format: MP4 / Photo format: JPEG
- Supports Micro SD Card up to 32GB with class 10 required for HD video recording (not included)

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.

Product Name: ConneX Camera
Model Name: ConneX
FCC ID:2AE2B-CONNEX
Intova LLC

Important notice:

- Use only with approved mount systems that will not put pulling pressure directly on cable connector. Improper pulling on cable/connector can damage connector and is not covered by warranty.
- ⚠️ WARNING: Do not attempt to take apart the camera-there are high voltage parts and dangerous electric shock can occur.
- ⚠️ WARNING: If the camera is dropped or smashed and internal parts are exposed, do not touch-there is a danger of electric shock.
- Do not leave the camera in direct sunlight or near heat sources as these can damage the camera.
- If camera becomes hot during use, turn off the power immediately.
- For storage, remove the memory card and keep camera in a cool, dry place with housing door slightly open.
- Before each use, clean and maintain all O-rings in areas that have been opened by removing any dirt, sand and any other debris
- O-rings should be visually inspected and lightly lubricated as needed with silicone grease to prevent drying and cracking. Remove **_all_** excess grease after application.
- If camera stops responding to button controls, reset camera by inserting the end of a paper clip into the reset hole (please see page 4).

Computer requirements for 1080p HD video:

Minimum recommended setup for viewing and editing 1080p 30fps video.

PC	Mac
Windows® 7, 8, 10	Mac OSR X 10.6.3 or later
Intel® Core 2 Duo™ or faster	Intel® Core 2 Duo™ or faster
DirectX 10.0 or later	
Minimum 2GB of system RAM Recommended: 4GB	Minimum 2GB of system RAM Recommended: 4GB
Video card with minimum 256MB of RAM	Video card with minimum 256MB of RAM
Recommended screen resolution 1920x1080 (minimum 1024x768)	Recommended screen resolution 1920x1080 (minimum 1024x768)

Included Accessories:

2.4G remote, micro USB cable, TV out cable, wrist strap, lens cap, quick start guide, optional accessories sheet.
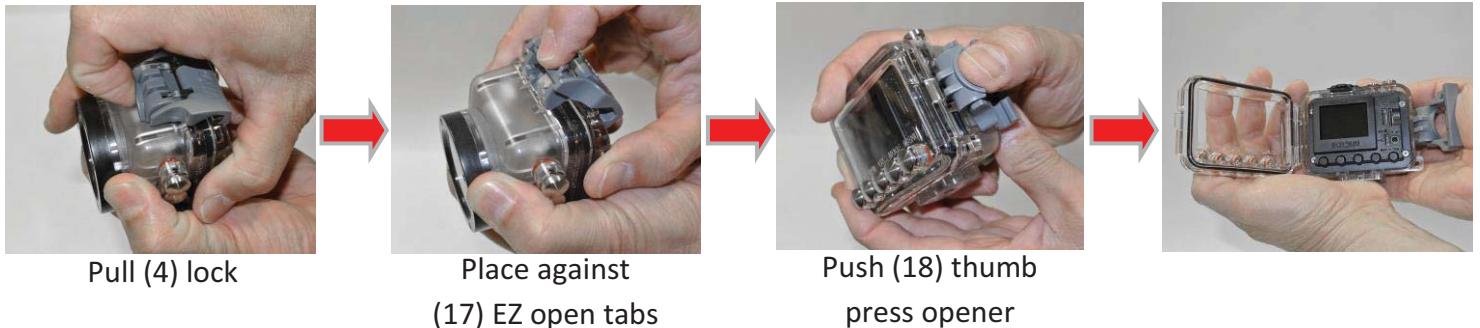
GETTING TO KNOW YOUR CAMERA

(2) SHUTTER

(1) POWER

(7) Recording indicator LED

(13) Cable port cover

(3) LED

(8) UP, ZOOM out, LCD icons off, LCD off

(4) LOCK

(5) Wrist strap attachment point

(6) Tripod mount

(9) DOWN, ZOOM in, Front LED off/on

(10) OK

(11) MODE

(12) MENU

(22) Port cover O-Rings

(21) Cable port

(20) Mini USB HDTV out port

(23) LCD

(19) Micro SD card port

(24) O-ring

(18) Thumb press opener

(17) EZ open tabs

(16) RESET

(14) Micro USB port

(15) VGA TV out port

GETTING STARTED

Opening the camera:

Follow the steps below to open the housing. Sometimes a vacuum seal may occur, use thumb press system to open.

Pull (4) lock

Place against (17) EZ open tabs

Push (18) thumb press opener

IMPORTANT: Before each use, clean and maintain all O-rings for parts that have been opened by removing any dirt, sand and other debris and lightly lubricating with silicone grease as needed to prevent drying and cracking. Make sure to remove all excess grease before use. Excess grease can cause leakage and failure of seal.

Resetting camera: If camera becomes unresponsive, insert end of paper clip into (16) RESET hole and gently push to reset camera.
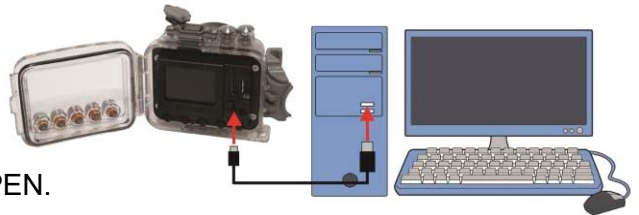
Inserting the Micro SD card:

Make sure that camera is turned OFF when inserting or removing 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, press down on inserted card to click and then release. ConneX uses Micro SD card up to 32 GB. For HD video, speed class 10 is required.

1. **The camera cannot record video or take photos without a properly inserted memory card.**
2. 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 6 times, OK, UP button, and OK. **WARNING: Format will erase all data from card. Transfer and save any data prior to formatting.**
3. When recording video in 1080p resolution, card speed class 10 is required.
4. Please set appropriate TV SYSTEM (NTSC or PAL) in camera's SETTING menu prior to recording.

Data transfer and charging:

Connect your camera to a computer with the micro USB cable. After connection, camera will turn on. Use UP / DOWN buttons and press OK button to select MSDC / CHARGE / OPEN.

MSDC: To download video or photo files. When this choice is selected, the screen with "USB CONNECTED" will appear and camera will be detected by the computer. Files can then be transferred.

CHARGE: To recharge the battery. Charging time is up to 6 hours. When CHARGE is selected, LCD will turn off.

Charging the Li-ion battery:
1. Insert the USB cable into the camera's Micro USB port.
2. Insert other end of cable into a computer USB port.
3. Scroll down to select CHARGE and press OK.
4. When charge is complete, red LED will turn off.

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.

OPEN: To recharge the battery power and operate the camera at the same time. When this choice is selected, LCD will show live view.

If none of the above choices is selected, the camera will automatically go to MDSC mode after 20 seconds and the "USB CONNECTED" screen will appear.
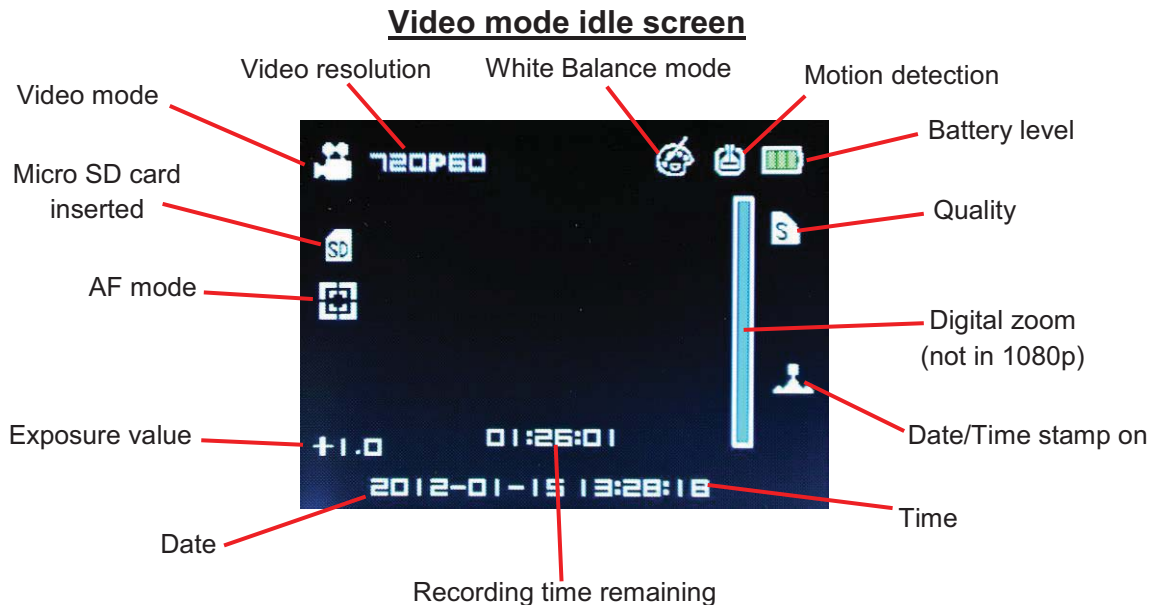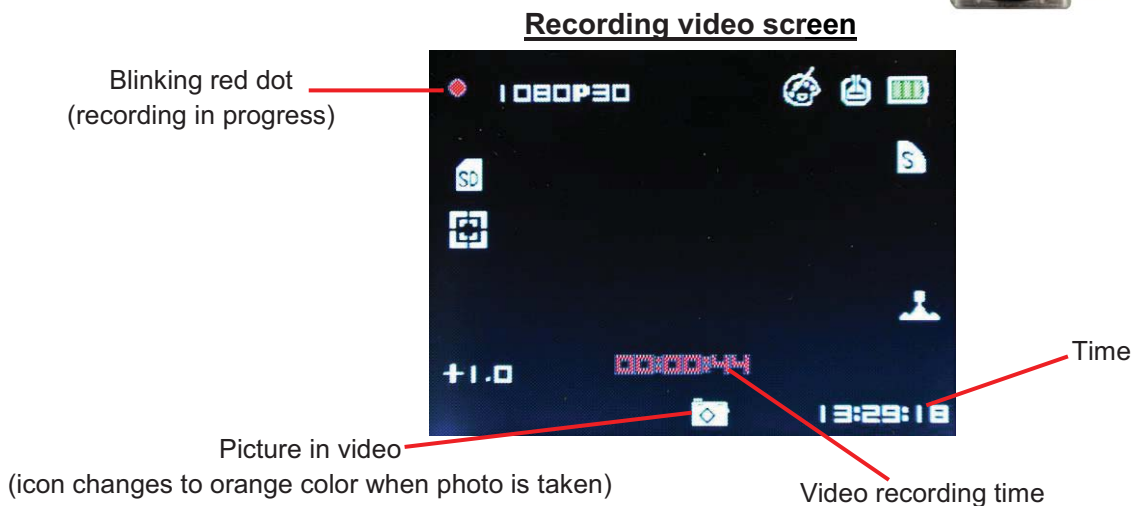
USING CONNEX

Insert Micro SD memory card (class 10 required for HD video) before turning on. **The camera cannot record video or take photos without a properly inserted memory card.**

To turn camera on, press and hold power ON/OFF button for 2 seconds and then release (if camera is in sleep mode, short press once to waken)

Video Mode LCD Display: To start video recording, press the shutter button while in video mode.

Video mode idle screen

Video resolution | White Balance mode | Motion detection
Video mode
Battery level
Micro SD card inserted
Quality
AF mode
Digital zoom (not in 1080p)
Exposure value
Date/Time stamp on
Date
Time
Recording time remaining

Front indicator LED

To turn OFF front indicator LED during video recording, press the DOWN button and press again to turn back ON.

Recording video screen

Blinking red dot (recording in progress)

Time

Picture in video
(icon changes to orange color when photo is taken)
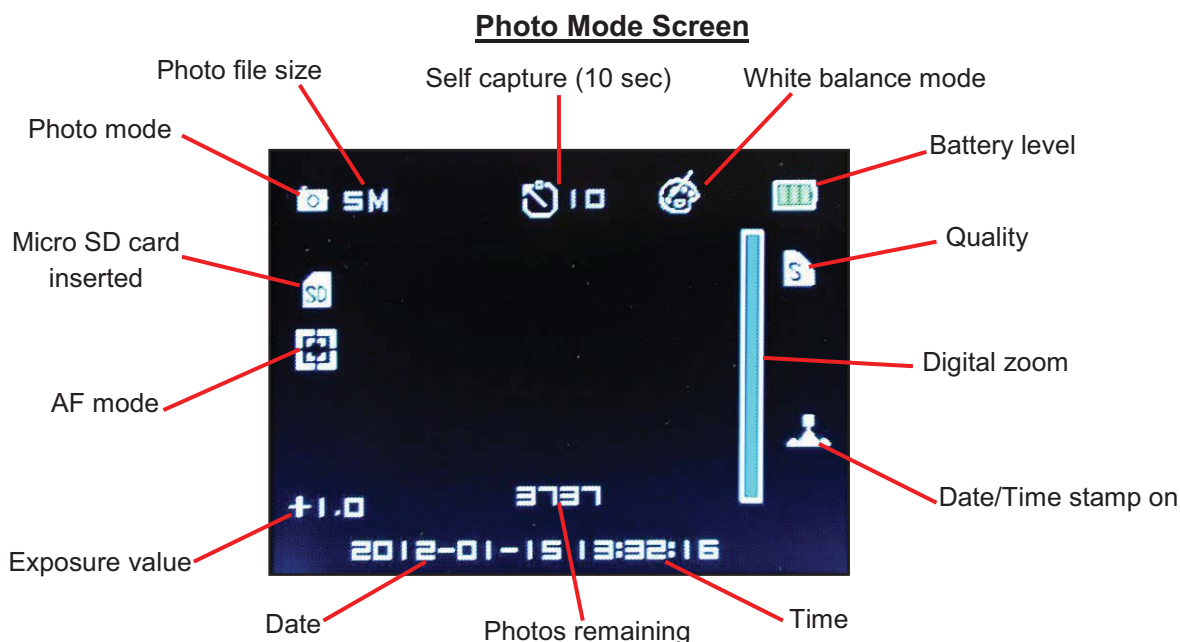
Video recording time

To take a photo while recording video (picture in video), press OK button (color of icon will change to orange).

7

Photo Mode LCD Display

To switch to photo mode, press and quickly release MODE. To take a photo, hold camera steady while pressing and releasing SHUTTER button.

Photo Mode Screen

Photo file size

Photo mode

Self capture (10 sec)

White balance mode

Battery level

Micro SD card inserted

Quality

Digital zoom

AF mode

Date/Time stamp on

Exposure value

Date

Photos remaining

Time

Basic Operations of ConneX camera

BUTTON	BASIC OPERATION PROCEDURES
POWER	Press and hold for 2 seconds and release button to turn on or turn off camera.
SHUTTER	Press "SHUTTER" button to start and stop video recording or to take a photo.
UP, ZOOM out, LCD icons off, LCD off/on	1) Press button to scroll up through sub-menu selections. 2) Press and hold to ZOOM OUT digital zoom (not in 1080p mode). 3) LCD icons off. 4) LCD OFF/ON button.
DOWN, ZOOM in, front LED off/on	1) Press button to scroll down through sub-menu selections. 2) Press and hold to ZOOM IN digital zoom (not in 1080p mode). 3) Press when recording video to turn off or on front blinking LED.
OK	1) Press button to confirm menu selection. 2) During video recording, press button to take photos (Picture in Video). 3) In video or photo mode, press to go to view file(s) mode.
MODE	Press to switch between video and photo modes.
MENU, DELETE file	1) To bring up MENU, press and release button. 3) While in File Viewing mode, press button to DELETE single or all files.

8

2.4G REMOTE OPERATIONS

Using 2.4G remote
1) To start and stop video recording, press the video record button
2) To take a photo, press the photo button.
3) To turn camera off, long press (about 3 seconds) the Power OFF button.
4) To replace batteries, please unscrew back cover and remove spent batteries
   and replace with two fresh CR2016, 3V batteries.
5) IMPORTANT NOTE: Wireless transmission will not work underwater.
   Wireless remote is for above water use only.

Matching 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 matched to camera after red LED stops blinking.

Video record
ON / OFF
Power OFF
Photo

CAMERA SETTINGS:

To change camera settings, press the MENU button and press UP or DOWN button to scroll through main menu selections and press OK button to enter sub-menu selections. Shown below are the three main menu selections screens.

VIDEO Menu:

In video mode, press MENU button. With VIDEO menu icon highlighted, press OK button to enter video settings sub-menu. Use the UP or DOWN button to scroll through the sub-menu and press OK button to select from QUALITY, RESOLUTION, MOTION DETECTION,VIDEO DURATION,LOOP VIDEO, UPSIDE DOWN, MUTE, IMAGE EFFECT, SCENE MODE, FLICKER, CONTRAST, SHARPNESS, ISO, WHITE BALANCE, EXPOSURE VALUE, and AF MODE. After selecting sub-menu, use UP or DOWN to scroll through choices, press OK button to select and press MENU button 2 times to go back to main screen.

1) VIDEO QUALITY: Setting sub-menu choices are explained in chart below.

SETTING	DESCRIPTION
Super Fine	Produces best quality video for selected resolution.
Fine	Produces good quality video for selected resolution.
Normal	Produces regular quality video for selected resolution.

2) RESOLUTION: Setting sub-menu choices are explained in chart below.

RESOLUTION	NTSC/PAL fps	DESCRIPTION
1080P30	30/25	Highest resolution 16:9 HD video @ 1920x1080 pixels. 30/25 frames per second rate for both action and when mounted on stable object.
720P60	60/50	High resolution 16:9 HD video @ 1280x720 pixels. 60/50 frames per second rate for hand held, action shooting and good slow motion effect*. Produces larger file size than 30/25 fps selection below.
720P30	30/25	High resolution 16:9 HD video @ 1280x720 pixels. 30/25 frames per second rate for action shooting, when mounted on stable object and for lower light conditions. Produces smaller file size than 60/50 fps.
848x480/60F (WVGA)	60/50	Wide standard resolution 16:9 video @ 848x480 pixels produces small file size. 60/50 frames per second rate for hand held, action shooting and slow motion effect*.
848x480/30F (WVGA)	30/25	Wide standard resolution 16:9 video @ 848x480 pixels produces small file size. 30/25 frames per second rate for hand held, action shooting.
VGA	30/25	Standard resolution 4:3 video @ 640x480 pixels produces small file size. 30/25 frames per second rate for hand held, action shooting.
*Slow motion effect is produced in video editing software (not included) which includes that feature.		

3) MOTION DETECTION: Video will start recording automatically when motion is detected in field of view. Video will record for 5 seconds and stop if no other motion is detected. Setting choices are ON/OFF.

4) VIDEO DURATION: Allows 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 manually by pressing SHUTTER button. Setting choices are 3 min, 5 min, 10 min, 15 min, and ANY DURATION.

5) LOOP VIDEO: Allows camera to continue capturing video after memory card has become full by recording over previous video files from the beginning. Setting choices are ON or OFF.

6) UPSIDE DOWN: This setting allows video to be played back in correct orientation for videos that are recorded with camera mounted upside down. Setting choices are ON to activate and OFF to deactivate feature.

7) MUTE: This setting allows audio recording to be turned off or on. Select YES to turn audio OFF and select NO to turn audio recording ON.

8) IMAGE EFFECTS: This setting allows selection of image altering effects as shown below.

EFFECT	DESCRIPTION
OFF	Deactivates Image effects.
ART	Changes background sharpness and contrast.
SEPIA	Adds yellow-brown tint to video/photo.
NEGATIVE	Reverses imagery to make it appear like a film negative.
BLACK & WHITE	Removes color to create a monochrome video/photo.
VIVID	Enhances colors.

9) SCENE MODE: This setting selects the below scene modes.

SCENE MODE SELECTION	DESCRIPTION
AUTO	Select AUTO when you want to record videos or photos without manual adjustments described below.
NIGHT SCENE	For video/photography in low light and at night. Due to slower shutter speed, mounting on stable object such as a tripod is recommended.
SPORTS	For video/photography of fast moving subjects or during action activities. Camera uses faster shutter speeds to improve imagery.
LANDSCAPE	For video/photography of distant subjects such as mountains, cityscape, etc.
SUNSET	For video/photography of scenes that include sunrise or sunset in the background. Camera uses faster shutter speed to improve imagery.
SAND & SNOW	For video/photography where bright background causes subject to appear dark (silhouetted). Camera uses slower shutter speed to improve imagery.
SPOTLIGHT	For video/photography where bright spotlight causes subject to appear too bright. Camera uses faster shutter speed to improve imagery.
DIVING	Activates an electronic red filter to add back warm colors while diving at depths between 20'-50'/ 6 M-15 M in salt water. Below 50'/15 M, it is recommended to deactivate DIVING mode and use a physical red filter such as Intova IFRED SP1.

10) FLICKER: This setting allows the camera to be adjusted to AUTO, 60Hz or 50Hz to prevent video flickering caused by fluorescent lights. For USA, the setting is 60Hz.

11) CONTRAST: This setting increases or reduces the difference between dark and light areas. Default setting is STANDARD. To make dark areas blacker and light areas brighter in videos/photos, select ENHANCE. To make dark areas less black and light areas darker, select SOFT.

12) SHARPNESS: This setting increases or decreases video/photo sharpness. Default setting is STANDARD. Select SHARP to sharpen or SOFT to blur.

13) 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, and 800.

14) 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 in either fresh or salt water, fluorescent light, or scenes in shade. Examples of warm lighting situations are candlelight and tungsten light. Setting choices are AUTO, SUNNY (daylight situations), CLOUDY (cool light situations), FLUORESCENT (under fluorescent lighting), INCANDESCENT (under filament lamp lighting) and MANUAL.

To use MANUAL white balance:
a) In WHITE BALANCE mode, select MANUAL and press OK button to activate.
b) Press MENU button 2 times to go to main screen. The manual white balance icon will be blinking at the top of the LCD screen.
c) Aim camera at white balance board or a white object and press SHUTTER button. White balance is now set to current ambient light.
d) To reset manual white balance for a new ambient light situation, turn camera off and on to reactivate blinking manual white balance icon and repeat step c.

15) EXPOSURE VALUE: This setting adjusts the brightness or darkness of the video/photo between ±2 f stops. Setting to positive values will brighten imagery, while negative values will darken imagery.

16) AF MODE: This setting selects the general area in a scene that the cameras uses when calculating image exposure. Selecting AVERAGE causes camera to adjust exposure to light coming from the overall area as viewed in LCD. Selecting CENTER will decrease this area towards the middle of the scene. Selecting SPOT will cause camera to adjust exposure based on light coming from a very concentrated area in the middle of the scene.

PICTURE (Photo) Menu:

In photo mode, press the MENU button. With PICTURE menu icon highlighted, press OK button to enter photo settings sub-menu. Use the UP or DOWN button to scroll through the sub-menu and press OK button to select from QUALITY, SIZE, SELF CAPTURE, CONTINUOS, TIME LAPSE, UPSIDE DOWN, IMAGE EFFECT, SCENE MODE, FLICKER, CONTRAST, SHARPNESS, ISO, WHITE BALANCE, EXPOSURE VALUE and AF MODE. After selecting sub-menu, use UP or DOWN to scroll through choices, press OK button to select and press MENU button 2 times to go back to main screen.

1) QUALITY: Setting sub-menu choices are explained in chart below.

SETTING	DESCRIPTION
Super Fine	Produces best quality photo for selected size.
Fine	Produces good quality photo for selected size.
Normal	Produces regular quality photo for selected size.

2) SIZE: Setting sub-menu choices are explained in chart below.

PHOTO FILE SIZE	PIXEL DIMENSIONS	DESCRIPTION
12MP	4000 x 3000	Largest file size (by interpolation)
8MP	3264 x 2448	Large file size (by interpolation)
5MP	2592 x 1944	Medium file size (true)
3MP	2048 x 1536	Small file size (true)

3) SELF CAPTURE (self-timer): Allows time delay in seconds between pressing of SHUTTER button and taking of photo.
To activate self-capture:
1. In photo mode, press (12) MENU button.
2. Press (10) OK button.
3. Press (9) DOWN button 2 times and press (10) OK button.
5. Select OFF, 5, 10, 30 or 60 seconds and press (10) OK.
6. Press (12) MENU button 2 times to go back to main screen.
7. LCD screen should show self-capture 🕑 icon. Press (2) SHUTTER to activate.

4) CONTINUOUS: This setting allows 3, 5 or 10 "burst" photos per shutter button press.

5) TIME LAPSE: Allows the camera to continually take a photo with delays between each photo corresponding to selected time interval in seconds. This produces a high quality time lapse effect. The setting choices are OFF, 2 sec, 3 sec, 5 sec, 10 sec, 30 sec, and 60 sec.

6) UPSIDE DOWN: This setting allows video to be played back in correct orientation for photos that are taken with camera mounted upside down. Setting choices are ON to activate and OFF to deactivate feature.

7) IMAGE EFFECTS: This setting allows selection of image altering effects as shown below.

EFFECT	DESCRIPTION
OFF	Deactivates Image effects.
ART	Changes background sharpness and contrast.
SEPIA	Adds yellow-brown tint to video/photo.
NEGATIVE	Reverses imagery to make it appear like a film negative.
BLACK & WHITE	Removes color to create a monochrome video/photo.
VIVID	Enhances colors.

8) SCENE MODE: This setting selects the below scene modes.

SCENE MODE SELECTION	DESCRIPTION
AUTO	Select AUTO when you want to record videos or photos without manual adjustments described below.
NIGHT SCENE	For video/photography in low light and at night. Due to slower shutter speed, mounting on stable object such as a tripod is recommended.
SPORTS	For video/photography of fast moving subjects or during action activities. Camera uses faster shutter speeds to improve imagery.
LANDSCAPE	For video/photography of distant subjects such as mountains, cityscape, etc.
SUNSET	For video/photography of scenes that include sunrise or sunset in the background. Camera uses faster shutter speed to improve imagery.
SAND & SNOW	For video/photography where bright background causes subject to appear dark (silhouetted). Camera uses slower shutter speed to improve imagery.
SPOTLIGHT	For video/photography where bright spotlight causes subject to appear too bright. Camera uses faster shutter speed to improve imagery.
DIVING	Activates an electronic red filter to add back warm colors while diving at depths between 20'-50'/ 6 M-15 M in salt water. Below 50'/15 M, it is recommended to deactivate DIVING mode and use a physical red filter such as Intova IFRED SP1.

9) FLICKER: This setting allows the camera to be adjusted to AUTO, 60Hz or 50Hz to prevent video flickering caused by fluorescent lights. For USA, the setting is 60Hz.

10) CONTRAST: This setting increases or reduces the difference between dark and light areas. Default setting is STANDARD. To make dark areas blacker and light areas brighter in videos/photos, select ENHANCE. To make dark areas less black and light areas darker, select SOFT.

11) SHARPNESS: This setting increases or decreases video/photo sharpness. Default setting is STANDARD. Select SHARP to sharpen or SOFT to blur.

12) 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, and 800.

13) 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 in either fresh or salt water, fluorescent light, or scenes in shade. Examples of warm lighting situations are candlelight and tungsten light. Setting choices are AUTO, SUNNY (daylight situations), CLOUDY (cool light situations), FLUORESCENT (under fluorescent lighting), INCANDESCENT (under filament lamp lighting) and MANUAL.

To use MANUAL white balance:
a) In WHITE BALANCE mode, select MANUAL and press OK button to activate.
b) Press MENU button 2 times to go to main screen. The manual white balance icon will be blinking at the top of the LCD screen.
c) Aim camera at white balance board or a white object and press SHUTTER button. White balance is now set to current ambient light.
d) To reset manual white balance for a new ambient light situation, turn camera off and on to reactivate blinking manual white balance icon and repeat step c.

14) EXPOSURE VALUE: This setting adjusts the brightness or darkness of the video/photo between ±2 f stops. Setting to positive values will brighten imagery, while negative values will darken imagery.

15) AF MODE: This setting selects the general area in a scene that the cameras uses when calculating image exposure. Selecting AVERAGE causes camera to adjust exposure to light coming from the overall area as viewed in LCD. Selecting CENTER will decrease this area towards the middle of the scene. Selecting SPOT will cause camera to adjust exposure based on light coming from a very concentrated area in the middle of the scene.

SETTING Menu:
SETTING menu is the same for both video and photo (picture) modes. Press the MENU button and use UP or DOWN button to highlight SETTING menu icon. Press OK button to enter SETTING sub-menu. Use the UP or DOWN button to scroll through the sub-menu and press OK button to select from CONNEX MODE, LCD OFF, TIME SETUP, AUTO POWER OFF, VOLUME, RESET SYSTEM SETTINGS, FORMAT, LANGUAGE, TV SYSTEM, STAMP, BEEP SOUND, and FIRMWARE VERSION. After selecting sub-menu, use UP or DOWN to scroll through choices, press OK to select and press MENU to go to main screen.

1) CONNEX MODE: User can select between LCD, VGA or HD modes when a CONNEX CABLE is connected to the CONNEX port. Enter "SETTING" menu and in "CONNEX MODE" select VGA if using a VGA cable or HD if using an HD cable. Camera LCD will turn off and show live view on a remote monitor connected to the cable. Select LCD in CONNEX MODE or turn camera OFF and ON to return to live view on camera's built-in LCD.

CONNEX MODE	DESCRIPTION
LCD	Default mode shows live view on camera's built in LCD screen.
VGA	Use this mode when connected to CONNEX VGA cable and remote monitor.
HD	Use this mode when connected to CONNEX HD cable and remote monitor.

2) LCD OFF: This setting turns off LCD screen after a specific time period when 30 sec, 1 min or 3 minutes is selected. Select OFF to deactivate LCD OFF function and keep LCD on. Use this feature to conserve battery power.

3) TIME SETUP: This setting allows current date and time to be set. With sub-menu item highlighted, press OK button to enter setting. Press UP or DOWN button to change number and press MENU button to scroll to next. When done, press OK button to confirm and go back to sub-menu.

4) AUTO POWER OFF: This setting turns off camera after a specific time period when 30 sec, 1 min or 3 minutes is selected. Select OFF to deactivate AUTO POWER OFF function. Use this feature to conserve battery power.

5) VOLUME: This setting allows beep sound volume to be turned off when set to 00 or adjusted from level 01 through 13.

6) RESET SYSTEM SETTINGS: This function allows camera settings to be reset to factory default.

7) FORMAT: 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 button, UP button, OK button, UP button 6 times, OK button, UP button, and OK button.
WARNING: Format will erase all data from card. Transfer and save any data prior to formatting.

8) LANGUAGE: This setting allows MENU language to be selected between English, Chinese (Traditional), Chinese (simplified), Japanese, French, German, Dutch, Portuguese, Spanish, Korean and Italian.

9) TV SYSTEM: This setting configures the video file for playback on either an NTSC or PAL system device. Please set appropriate TV SYSTEM (NTSC or PAL) prior to recording video.

10) STAMP: This setting will place both date and time on the photo file which is visible viewed or printed. Setting choices are OFF or DATE and TIME.

11) BEEP SOUND: This setting turns Beep sound ON or OFF.

12) FIRMWARE VERSION: This indicates installed firmware version. Please note when updating firmware in order to confirm new firmware has been installed.

VIEW PHOTOS OR PLAYBACK VIDEOS

Using LCD screen to playback videos:
1. Go to View Files mode by pressing OK button in Video mode.
2. Press UP or DOWN button to scroll through files.
3. Press the OK button to enlarge thumbnail.
4. Press OK button to play video file.
5. Press OK button to stop video file.
6. Press MODE button 2 times to go back to the main screen.

Using LCD screen to view photos:
1. Go to View Files mode by pressing OK button in Photo (picture) mode.
2. Press UP or DOWN button to scroll through files.
3. Press the OK button to enlarge thumbnail.
4. Press UP or DOWN button to scroll through files or press OK button to start slide show.
5. Press MODE button 2 times to go back to the main screen.

Playback using High Definition TV Output:

To view HD videos on an HDTV, use a mini High Definition TV cable (not included) to connect the camera to an HDTV. Turn camera on and confirm that TV SYSTEM (NTSC or PAL) in SETTING Menu is matched to TV. Plug the High Definition mini plug into the camera's HD output port and the other end with USB plug into the HDTV. Press OK button to get to the file viewing mode. Use UP or DOWN buttons to scroll through thumbnail images and press OK button to select and view a file. To play a video file, press OK button again to begin playback and view on HDTV.

DELETING FILES

To delete a single file:
1. Go to View Files mode by pressing OK button in Video or Photo mode.
2. Press UP or DOWN button to select a file and then press the MENU button.
3. Press the UP button to highlight YES.
4. Press OK to execute deletion.

To delete all files:
1. Go to View Files mode by pressing OK button in Video or Photo mode.
2. Press UP or DOWN button to select a file and then press the MENU button.
3. Press the UP button 2 times to highlight ALL.
4. Press the OK button then press the UP button to highlight YES.
5. Press OK to execute deletion of all files.

CONNEX OPTIONAL ACCESSORIES:

Waterproof cables: Available in either VGA or HD video versions up to 300' / 90+ meters with RCA male video out connector(s) and 12V DC power-in connector. VGA or HD mode set in camera' system menu.
IMPORTANT: Before each use, clean and maintain all O-rings for parts that have been opened by removing any dirt, sand and other debris and lightly lubricating with silicone grease as needed to prevent drying and cracking. Make sure to remove all excess grease before use-excess grease can cause leakage and failure of seal.

⚠️ WARNING: DANGER OF ELECTRIC SHOCK FROM WET CABLE PLUG. Disconnect incoming power when attaching or removing ConneX waterproof cable.

Multi Bracket: Weighted camera mount allows ConneX to be mounted with 2 video lights (Model AVL) or 4 cameras. Model# CONNEX WC MT.

Bare wire adapter (12V DC): 5.5mm (OD)/2.1mm (ID) power connector plug with bare wires to 12V DC power source. Model# CONNEX DC CABLE.

⚠️ Connection polarity is very important. Reversing the polarity can damage the camera circuits and is NOT covered under warranty. Red wire is POWER (+), Black wire is GROUND (-).
⚠️ WARNING: DANGER OF ELECTRIC SHOCK. Disconnect incoming power when attaching or removing bare wire adapter.

Cigarette Charger (12V DC): 5.5mm (OD)/2.1mm (ID) power connector plug to cigarette lighter adapter plug for 12V DC. Model# CONNEX CIG CHGR.
⚠️ WARNING: DANGER OF ELECTRIC SHOCK. Disconnect incoming power when attaching or removing cigarette lighter adapter plug.
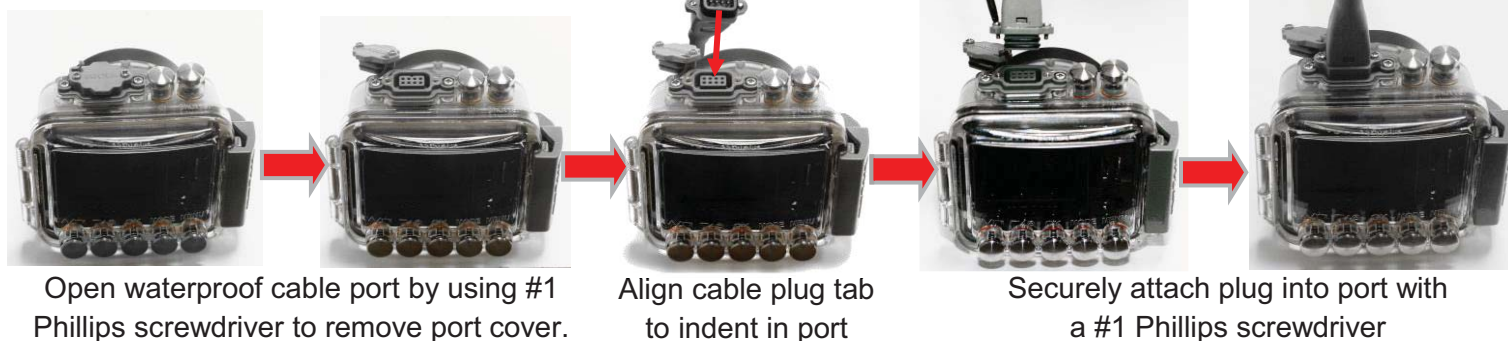
Monitor: Connect to waterproof cable via RCA plug(s) to view live video feed. The 7" water-resistant monitor requires 12V DC power. MODEL# CONNEX MONITOR.

Manta wing: Mount for towing camera underwater. Model# CONNEX TOW MT.

Attaching waterproof cable to ConneX:

Open waterproof cable port by using #1 Phillips screwdriver to remove port cover.

Align cable plug tab to indent in port

Securely attach plug into port with a #1 Phillips screwdriver

Important:

1. ⚠️ WARNING: DANGER OF ELECTRIC SHOCK FROM WET CABLE PLUG. Disconnect incoming power when attaching or removing ConneX cable.
2. Cable plug and camera port must be dry when attaching or removing cable.
3. When not in use, replace port cover on camera to maintain waterproof seal.
4. Use only with approved mount systems that will not put pulling pressure directly on cable connector. Improper pulling on cable/connector can damage connector and is not covered by warranty.
5. Before each use, clean and maintain all O-rings for parts that have been opened by removing any dirt, sand and other debris and lightly lubricating with silicone grease as needed to prevent drying and cracking. Make sure to remove all excess grease before use. Excess grease can cause leakage and failure of seal.

Connecting power to waterproof cable:

⚠️ WARNING: DANGER OF ELECTRIC SHOCK. Disconnect incoming power when attaching or removing accessories from cable.

Waterproof plug

Power-in port

Video out plug: RCA type
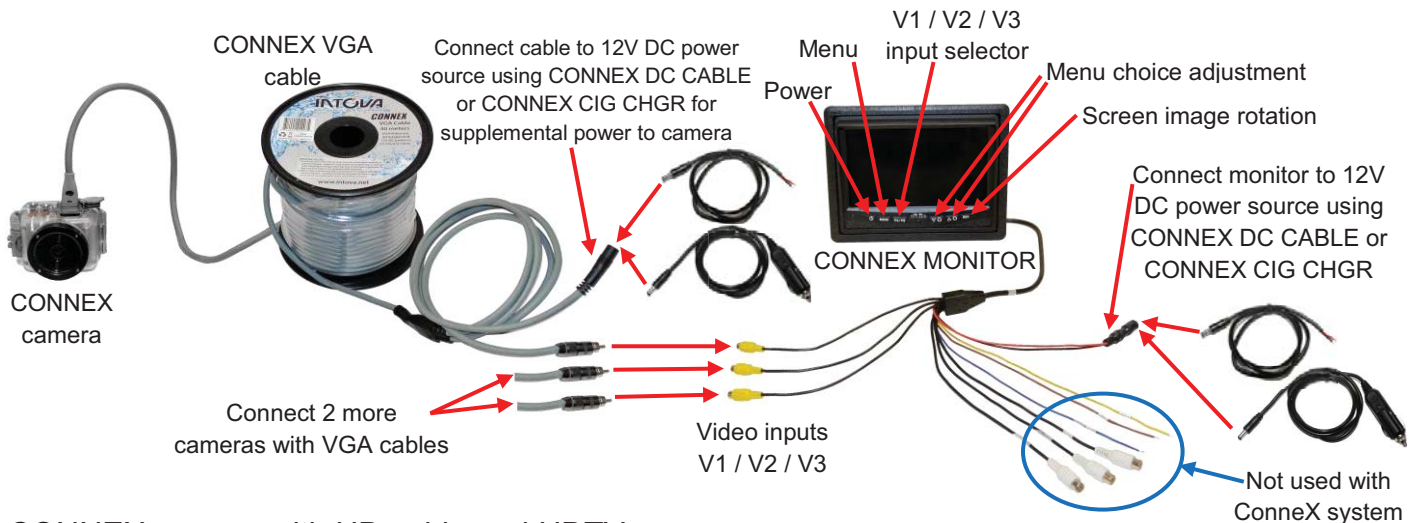 (1) plug on VGA model
 (3) plugs on HD model

Connect to 12V DC power source using CONNEX DC CABLE or CONNEX CIG CHGR by inserting 5.5mm (OD)/2.1mm (ID) power connector plug into ConneX cable's power-in port for supplemental power to camera.
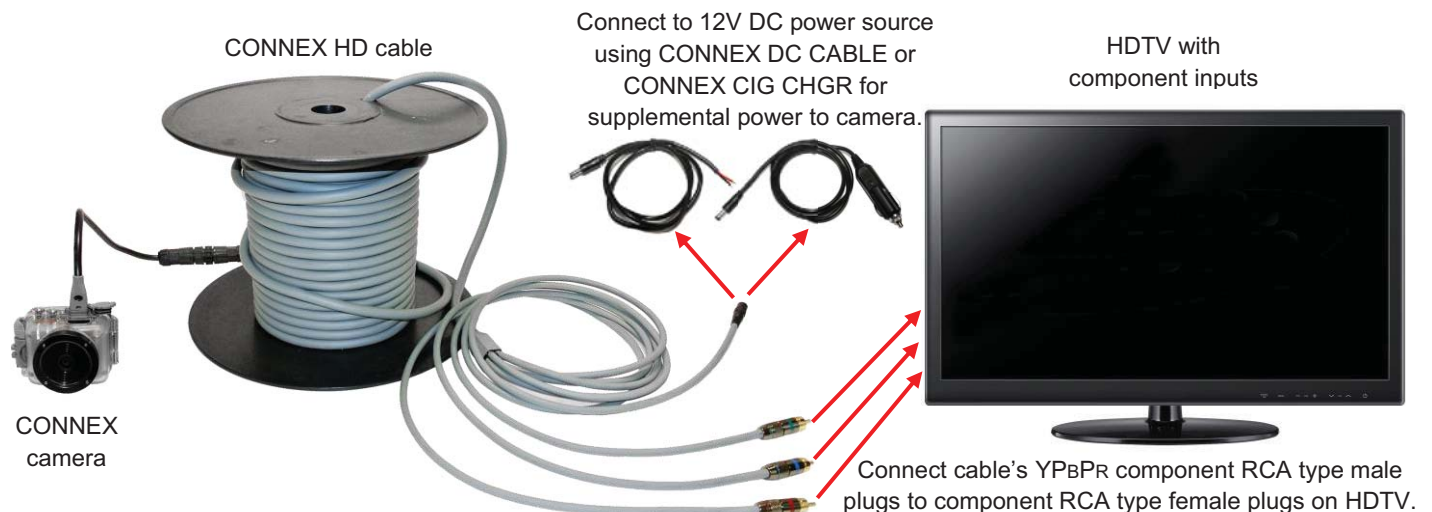
CONNEX CAMERA LIVE VIEW SETUP:

CONNEX camera with VGA cable and VGA monitor.

1. Connect ConneX camera to 20, 40 or 100 meter CONNEX VGA cable. Attach camera to an appropriate mounting system such as a ConneX Multi Bracket (Model CONNEX WC MT) or Manta Wing (Model CONNEX TOW MT). **IMPORTANT: Use only with approved mount systems that will not put pulling pressure directly on cable connector. Improper pulling on cable/connector can damage connector and is not covered by warranty.**

2. To supplement the camera's built in li-ion battery beyond the 3 hour battery life, connect an external 12V DC power source such as a battery (not included) to the ConneX cable's power-in port via a CONNEX DC CABLE or CONNEX CIG CHGR (optional accessories).

3. Connect the ConneX cable's RCA type male video out plug to the RCA type female video in plug of a VGA monitor such as the ConneX water-resistant 7" monitor (optional accessory) or other compatible marine VGA monitor.

4. The ConneX water-resistant 7" monitor (Model CONNEX MONITOR) requires 12V DC power from an external source such as a 12V DC battery or cigarette lighter port. Connect to power source using a CONNEX DC CABLE or CONNEX CIG CHGR (optional accessories).

5. ⚠ Connection polarity is very important. Reversing the polarity can damage the camera or monitor circuits and is NOT covered under warranty.

6. ⚠ WARNING: DANGER OF ELECTRIC SHOCK. Disconnect incoming power when attaching or removing cable(s).

CONNEX camera with HD cable and HDTV.

Same as above, except using a CONNEX HD cable connected via the cable's three component RCA type male video out plugs to a 1080p HDTV's component RCA type female video in plugs.

Connect cable's YPBPR component RCA type male plugs to component RCA type female plugs on HDTV.

18

SPECIFICATIONS:

Effective Sensor	1/ 2.3 " 5.0MP CMOS SENSOR		
LCD Screen	1.5 " TFT-LCD 480*240		
Photo Resolution & Possible number of shots (approx.)	12M 4000*3000 JPG about 1000pcs /4GB		
	8M 3200*2400 JPG about 1300pcs/4GB		
	5M 2592*1944 JPG about 1800pcs/4GB		
	3M 2048*1536 JPG about 3100pcs/4GB		
Video Resolution & possible recording time (approx.)	Mode of Video	QUALITY: Super Fine	QUALITY: Fine	QUALITY: Normal
	1920*1080P 30 fps, MP4 format	About 42 min (4GB)	About 50 min (4GB)	About 63 min (4GB)
	1280*720P 60 fps, MP4 format	About 50 min (4GB)	About 56 min (4GB)	About 84min (4GB)
	1280*720P 30 fps, MP4 format	About 63min (4GB)	About 84 min (4GB)	About 127 min (4GB)
	848 x 480P 60 fps, MP4 format	About 63min (4GB)	About 84min (4GB)	About 127min (4GB)
Lens specification	F/2. 4 f=3. 35 mm 140° wide angle		
Built-in microphone	Yes		
Operation Tone	Available		
Battery capacity	3.7V/ 1450mAh		
Battery life	About 2.5 hrs (LCD on), 3 hrs (LCD off)		
Power consumption	1.6W		
Charging spec.	DC 5V, 1A		
Charging time	About 6 hrs		
USB port	USB2.0 High Speed		
Type of Memory	Micro SD card (class 6 minimum, class 10 required for HD video)		
Capacity of Memory	4GB-32GB		
Depth rating	Waterproof to 330 ft / 100M		
Weight	6 oz / 170g		
Dimension	(2.8x3.3x2.4)in / (7x8.4x6)cm		
Model Name	ConneX		
FCC ID	2AE2B-CONNEX		
Standard Accessories	2.4G remote (for above water use only), micro USB cable, TV out cable, wrist strap, lens cap, quick start guide, optional accessories sheet		

NOTE: As a result of continual improvements, the design and specifications of product(s) as described in this user manual and on packaging may change without notice.

STANDARD CONSUMER WARRANTY

Intova warrants its products against defects in material and workmanship for 1 year from Date of Purchase. Pursuant to this Limited Warranty, Intova will, at its option, repair or replace legitimately defective products. Repair and/or replacement may include the use of refurbished parts or products. "Refurbished" means products or parts that have been factory restored to original specifications. Warranty coverage only applies to the original purchaser, when purchased from an authorized Intova dealer. Proof of Purchase from authorized dealer must be included with all warranty returns. The Warranty does not cover: (1) Rental or Commercial use (2) damage caused by accident, misuse, abuse, improper installation or operation, product modification or neglect, (3) damage occurring during shipment; (4) damage caused by repair or service performed by persons not authorized by Intova; (5) products on which the serial number has been altered, defaced or removed; (6) products not purchased from an Authorized Intova Dealer. To obtain warranty service, contact Intova for a Return Authorization number. Product and Proof of Purchase must be returned, freight prepaid, to Intova with RA number clearly marked on package. Product must be sent in original or comparable packaging that protects the contents. It is the owner's responsibility to back up and save all data, photos or software. Intova will not be responsible for loss or damage to data, software or photos.

For questions or customer service please call:
(808) 837-0074 or (877) 837-0074 toll free USA only

www.intova.net