FIRSTLOOK360

FIRSTLOOK360 Camera

User Manual

v.4.1

TABLE OF CONTENTS

OVERVIEW

FIRSTLOOK360 Technical Rescue Camera

The FIRSTLOOK360 (hereafter referred to as FL360) is a live-streaming 360° multipurpose technical rescue camera. It is designed to advance rescue capabilities at emergency scenes.

FL360 provides a completely new dimension in imaging technology, giving rescuers the ability to harness high-definition, streaming video that can be transmitted via wireless or wired connections to a mobile device. The complete spherical image taken by FL360 allows the rescue technician to quickly view any space in its entirety.

FL360 has the capability to record 360° video, take screenshots, and communicate via two-way audio. All recorded media is digitally overlaid on a map, and is time-, date-, and GPS-stamped.

This manual provides information for the safe and proper operation and maintenance of the FL360. Please read the complete user manual before operating this device. If you have any questions regarding the operation of FL360 or have suggestions for its improvement, please contact us at:

Phone: +1 (604) 259-1579 (Canada)
Email: info@agilitycorp.com

Ensure you have the latest version of the user manual. Please scan the QR code below or follow the link:
http://manual.firstlook360.com

GENERAL PRECAUTIONS

Read me first

- Please read this manual before using FL360 to ensure safe and proper usage of the device. Note that images may differ in appearance from the actual product, and that content is subject to change without prior notice. Visit www.agilitycorp.com/firstlook360 to view the latest information, downloads, and more concerning FL360.
- Please note that the FL360 camera and app have been optimized for the tablet included in the kit. Please contact us prior to attempted usage of a different, unsupported device.
- This product includes certain free and open source software. To see the free and/or open source licenses, please refer to the licenses section in the FL360 app.
- FL360 is designed to work for a variety of technical rescue applications and conditions. It is important to understand that even though the camera was built to withstand harsh conditions, it can be damaged if not properly cared for.
- FCC Compliance Statement (Class A): 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.
- CAN ICES-3 (A)/NMB-3(A) (Canada): This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the interference-causing equipment standard entitled: "Digital Apparatus," ICES-003 of the Canadian Department of Communications. This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.
- Contains FCC ID: 2ALXI-SOMWB1

Usage Precautions

The following precautions should be taken in order to prevent damage or misuse:
- The recommended continuous ambient operating temperature for the FL360 ranges from -10° C to 60° C. The system is designed to operate at this temperature indefinitely. If necessary, however, the system can be operated at higher or lower temperatures for short periods of time.
  Note that at temperatures below 0° C, changes in system operation may occur.
- Avoid leaving FL360 in direct sunlight when not in use.
- Never use the provided coiled tethering cable to support the full weight of the camera. Use rescue rope and the provided eye hook as a means to lower FL360 into a space.
- Do not expose the device to physical stress or impact.
- Always use manufacturer-approved batteries, chargers, accessories, and supplies only.

CAUTION: Changes or modifications to this equipment not expressly approved by the manufacturer will void the warranty and could void the user's authority to operate the equipment.

Safety Precautions

- Only use the FL360 system in a safe manner.
- It is important to understand and follow all standard operating procedures, safety precautions and practices when conducting rescue operations of any kind.
- Rescue Personnel should always wear appropriate personal protective equipment when conducting operations.
- Operating at the scene of a structure collapse is inherently dangerous. Rescuers require skill, experience, training, and adherence to their organization's safety protocols and procedures to minimize risk and work safely and successfully in this environment.
- Rescue personnel should address any safety concerns to their Incident Commander or Safety Officer and follow their superior's instructions while working at the rescue scene.
- Rescuers that have not been appropriately trained or have insufficient experience should not attempt activities that could result in injury to themselves or others.

Heat Precautions

The FL360 Camera heatsink (see picture below) will become warm when operated for long periods or in areas with limited airflow. This is normal as the on-board processor within the camera uses the heatsink to dissipate heat in order to ensure smooth and uninterrupted operation of FL360.

Heatsink

The maximum recommended continuous ambient operating temperature for the FL360 is 140° F (60° C). The camera is designed to operate at this temperature indefinitely. The system can be operated at higher temperatures when necessary, but only for short periods of time.
To prevent overexposure to heat, avoid leaving the system in direct sunlight when not in use.

Electrical Safety

The FL360 Camera will conduct electricity. Please do not operate the camera in the vicinity of or during an electrical storm. Avoid contact with any live sources of electrical power. Ensure that the working area is safe, and all sources of power have been disconnected or made safe before conducting rescue operations. Take all precautions necessary to avoid electrocution, which could result in serious injury or death.

Hazardous Atmospheres

The FL360 Camera is not certified for use in atmospheres that contain flammable, combustible, conductive or explosive agents; or in atmospheres that contain contaminants such as fumes, dusts, mists etc. Please ensure that the working environment is free of flammable gases or liquids before operating the camera. Operating the camera within these hazardous environments could cause an explosion.
It is important to follow all safety protocols and procedures relating to potentially hazardous atmospheres and areas.
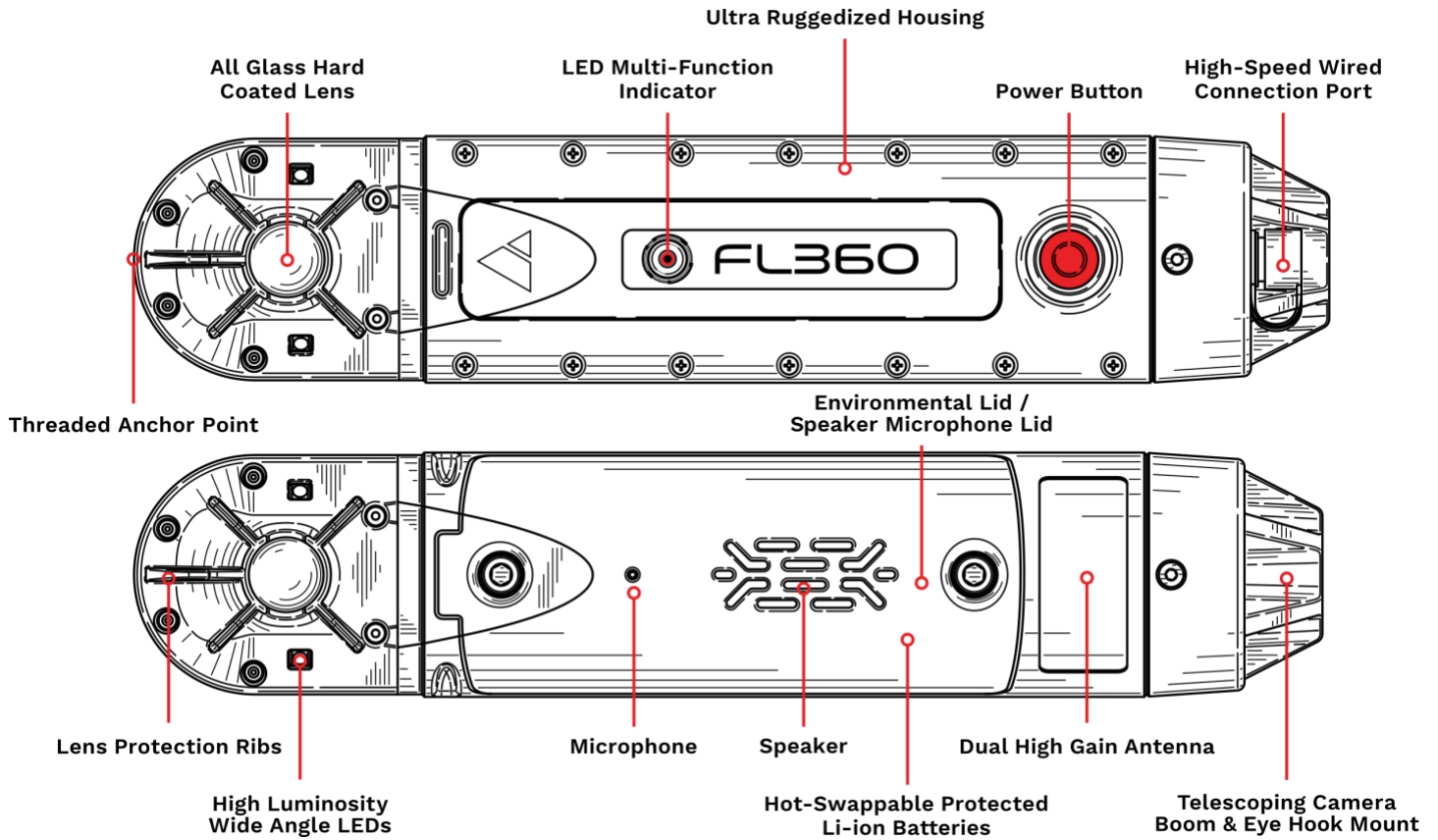
Batteries and Battery Chargers - Warnings

The usage of batteries is at your own risk. Before handling, ensure any user has appropriate understanding of the charging, discharging, and installing of lithium ion batteries. Agility Technologies Corporation is not responsible for any damage caused by misuse or mishandling of li-ion batteries and/or chargers.

Make sure to:
- Only use approved Battery Cells recommended specifically by the manufacturer for use in the FL360. Failure to do so could damage the camera or cause some or all of the camera functions to fail. Each FL360 Battery lithium ion cell is equipped with a protection circuit to increase safety and to minimize the potential for risk. Nevertheless, the misuse or mishandling of lithium ion rechargeable batteries can pose a serious risk of personal injury or property damage.
- Use caution when working with lithium ion batteries as they are very sensitive to charging characteristics and may explode or burn if mishandled or misused. For this reason, do not store FL360 batteries (18650) in or near objects that will produce a static electric charge. Very quick pressure changes can cause 18650 batteries to malfunction.
- Always charge on a fireproof surface.
- Charge only in a recommended smart charger designed for this specific type of lithium ion battery.
- Do not overcharge or over-discharge batteries.
- Recharge drained batteries as soon as possible.
- Do not short-circuit batteries.
- Do not mix and match old, new, used, and unused batteries.
- Never leave batteries unattended while charging.
- Always take the batteries out of the camera body when the FL360 Camera is not in use.
- Do not expose batteries to extreme heat or moisture.
- Do not dispose of batteries in fire. Regulations and laws pertaining to the recycling and disposal of lithium ion batteries vary from country to country as well as by state and local government. Please consult your local jurisdiction regarding appropriate disposal. Note that many retail stores offer free recycling of rechargeable batteries.

CAUTION: Under no circumstances are UNPROTECTED lithium-ion cells to be used in the FL360. These could irreparably damage the onboard electronics and image sensors. Damage caused by unauthorized batteries will void the manufacturer's warranty of the FL360.

FL360 CAMERA OVERVIEW

All Glass Hard
Coated Lens

LED Multi-Function
Indicator

Ultra Ruggedized Housing

Power Button

High-Speed Wired
Connection Port

FL360

Threaded Anchor Point

Environmental Lid /
Speaker Microphone Lid

Lens Protection Ribs

Microphone

Speaker

Dual High Gain Antenna

High Luminosity
Wide Angle LEDs

Hot-Swappable Protected
Li-ion Batteries

Telescoping Camera
Boom & Eye Hook Mount

FL360 LED INDICATOR – MULTI-FUNCTION

Power Button	Press and hold - 4 sec	Power ON
Power Button	Press and hold - 4 sec	Power OFF

Multi-function LED colour	Multi-function LED time interval	Description
Blue	Continuous/Solid	Booting up
Red	4 Quick Flashes	During boot up, if battery level is too low
Blue-Red	Alternating	Camera booted, waiting for connection to tablet
Green	Every 2 seconds	Battery level greater than 75%
Green	Every second	Battery level between 25% and 75%
Yellow	Every second	Battery level between 10% and 25 %
Red	Every second	Battery level 10% or less - replace batteries
White	Continuous/Solid	Using CR123A Batteries / Battery malfunction when using FL360 Rechargeable Li-ion Batteries - shut down camera and test batteries

BATTERY LIDS

Environmental Battery Lid (0607-59-003)

The Environmental Battery Lid (pictured below) is the go-to lid for the FL360 Camera. This lid is designed to allow the camera to be used for short periods under water at depths of up to 3 meters.

- Ensure that the gasket on the interior face of the Environmental Lid is in good condition, free from debris, and contains no nicks or cuts that could negatively affect the seal.
- The Environmental Lid is held in place by two captive stainless-steel screws and must be securely and evenly hand-tightened into place using the provided FL360 Battery Compartment Tool.

WARNING: DO NOT over-tighten the screws, or the camera may be damaged.

Environmental Battery Lid

Speaker Microphone Battery Lid (0607-59-002)

The Speaker Microphone Battery Lid (pictured below) incorporates a speaker and microphone to allow the two-way audio functionality of the FL360. This lid is held in place by two captive stainless-steel screws and must be hand-tightened securely and evenly into place. The Speaker Microphone Battery Lid is water resistant for rain, water spray, and accidental dunking (IP67). If you wish to use the FL360 Camera under water, exchange the Speaker Microphone Battery Lid with the Environmental Battery Lid.

- Ensure that the gasket on the interior face of the Speaker Microphone Battery Lid is in good condition, free from debris, and contains no nicks or cuts that could negatively affect the seal.
- Flush out any debris from the speaker grill by removing it from the camera and running it under a flow of clean water. Shake out all the water from the lid and allow to dry thoroughly before reinstalling.

WARNING: Do not stick anything into the speaker grill or microphone port, as doing so might puncture the diaphragm causing a leak which will damage the FL360 camera's interior electronics.

Speaker Microphone Battery Lid – exterior face

Speaker Microphone Battery Lid – interior face

9

CHARGING PROCEDURES

Charging the tablet and power bank

Both the tablet and the power bank can be charged with the USB wall charger provided in the kit. The multi-charger provided in the USAR kit also allows for charging of the tablet and power bank via its USB A port. Please refer to the kit-specific manual for more detailed instructions.

Charging FL360 Batteries

The FL360 batteries can be charged using the battery charger provided inside the kit. Please refer to the kit-specific manual for more detailed instructions.

PREPARING THE TABLET

Turn on the tablet and follow the steps outlined below:

Internet Connection

When turned on for the first time, the tablet will need to be connected to the Google Play Store to download, install, and access critical updates of the FL360 App. For this first-time configuration, an internet connection is required. Make sure to use a Wi-Fi network that has a reliable internet connection.

Please use the following steps to connect to a Wi-Fi network:
1. Open Settings by tapping on the gear icon (fig 1).
2. Tap "Connections" > Wi-Fi.
3. Turn Wi-Fi on.
4. Tap on a network to connect to it.

TIP: Swipe down from the top of the screen to quickly access Wi-Fi settings. Here, you can turn the Wi-Fi settings on or off simply by tapping the Wi-Fi icon in the pull-down menu.
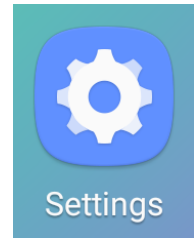
Figure 1:
Settings Gear Icon

Register / log into Google Account

To download FL360 App updates from the Google Play Store, a Google Account is required. Please use an existing Google Account or register a new one.
1. Open Settings by tapping on the gear icon.
2. Tap "Accounts."
3. Tap the plus icon in the top right corner to add a new account.
4. Tap "Google."

Please either login with your existing Google Account, or tap "Or create a new account" to create a new account and follow the instructions on the screen.

NOTE: In case of a factory reset / use of a different tablet / uninstall of the app, the FL360 App will have to be re-installed. Download and install the FL360 App as follows:
1. Log into the Google Play store with your Google Account.
2. Search for "FL360."
3. Tap the FL360 App (named "FL360") and select "Install."

CONNECTING THE CAMERA

FL360 is has two operational modes: wireless and wired. The wireless mode is the preferred method as it allows the operator(s) more freedom of movement. The wired mode can be used if the signal quality of the wireless mode is adversely affected by interference of structures or competing wireless signals.

Wireless Operation (USAR and RSK)

Step 1
Ensure all FL360 batteries and the tablet are fully charged. See CHARGING PROCEDURES on page 10 for detailed instructions.

Step 2
Once the batteries are fully charged, take the provided FL360 Battery Compartment Tool (fig 2) (or any 4mm hex socket tool), unscrew both 4mm screws, and remove the battery lid from the FL360 Camera housing (fig 3).

Figure 2: FL360 Battery Compartment Tool   *Figure 3: Unscrew the 4mm screws on the Battery Lid.*

Step 3
Insert two (2) fully charged FL360 Batteries over the orange ribbon into the camera, while carefully observing polarity by lining up the red (positive) side of the FL360 Battery with the positive terminal in the battery compartment (fig 4, 5 & 6). The FL360 Batteries should be inserted top of the orange ribbon to allow for easy battery removal. Tuck the excess ribbon back in between the batteries (fig 7) to avoid interference with the sealing gasket of the battery lid.

Figure 4   *Figure 5*   *Figure 6*   *Figure 7*

NOTE: Always remove FL360 Rechargeable Li-ion Batteries after use. Batteries left in the FL360 Camera will discharge even if the camera has been turned off.

Step 4

Install the Battery Lid back onto the camera.

Align the Battery Lid with the camera housing (fig 8) and tighten both screws securely and evenly using the provided FL360 Battery Compartment Tool. Spin the tool until the screws are seated, then turn one additional full rotation.

Figure 8: Align the Battery Lid with the camera housing.

CAUTION: DO NOT over-tighten the screws. The brass inserts in the camera housing could be damaged by doing so.

Step 5

Press and hold the camera power button for 4 seconds until the multifunction LED turns Blue, indicating the camera is powering up. The camera can take 30-40 seconds to complete the initial boot sequence. After finishing booting up, the multifunction LED will indicate the charge level of the battery by flashing three times in green, yellow, or red. (Green meaning full charge, yellow meaning partial charge, red meaning insufficient charge. Refer to FL360 LED INDICATOR – MULTI-FUNCTION on page 7 for details.) Once the boot sequence is completed, the LED will flash Red/Blue to indicate the camera is ready to be paired with the supplied tablet.

Step 6

Power on the tablet and allow it to boot up by pressing and holding the power button until the screen lights up (this step can be done simultaneously with booting up the FL360 Camera).

Step 7

Tap the FL360 App icon (fig 9) on the tablet to open the FL360 application.

FL360

Figure 9: FL360 App Icon

Step 8

Once the app is open, tap the red Wi-Fi icon (fig 10) to connect to the FL360 Camera (this process can take a few seconds).
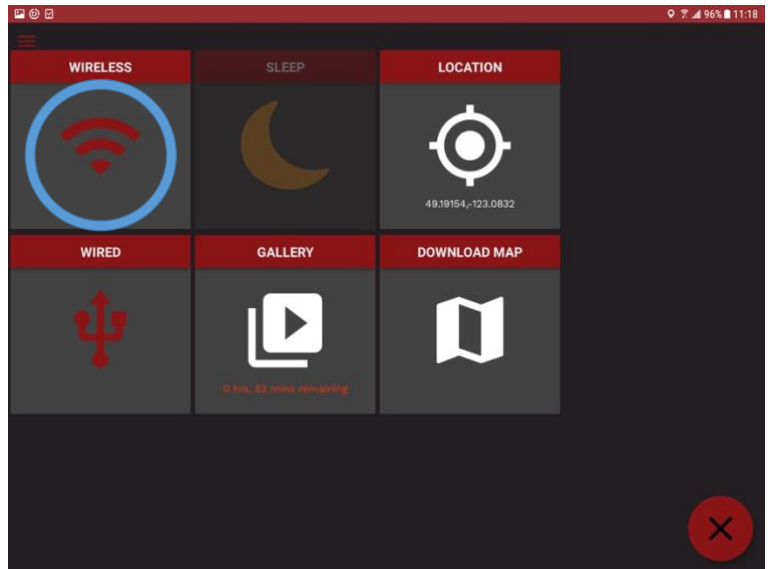

Figure 10: Tap and hold the Wi-Fi icon.

Select the proper camera (fig 11) (viz. 'FL360_xxxxx', making sure the number after "FL360_" corresponds with the serial number on the camera).
If prompted, type in the password "**FL360123**".
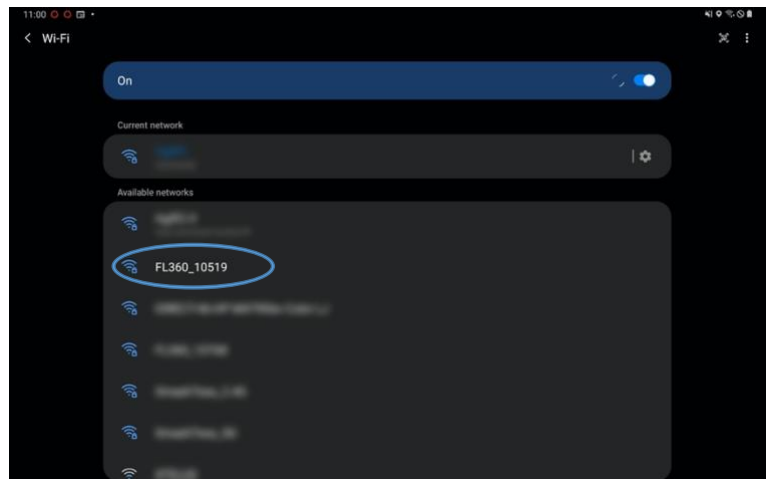Then press the tablet back button <.

Figure 11: Select the proper camera.

Once the camera is connected the Wi-Fi icon will turn green (fig 12).
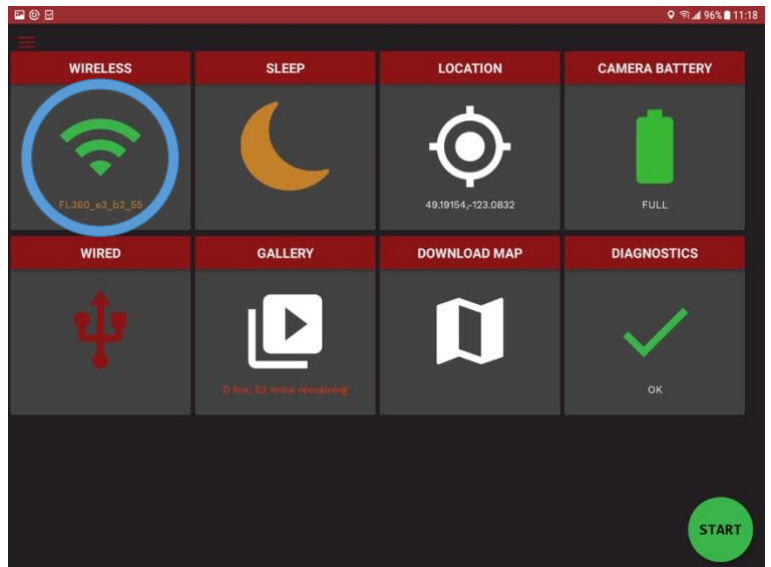
Figure 12: A green Wi-Fi icon indicates the camera has been connected.

14

Step 9
To start live-streaming, tap the start icon on the bottom right of the screen (fig 13).
You will be taken to the Camera Control Screen where the camera will stream full 360°. See FL360 APP OVERVIEW on page 19 for more details.
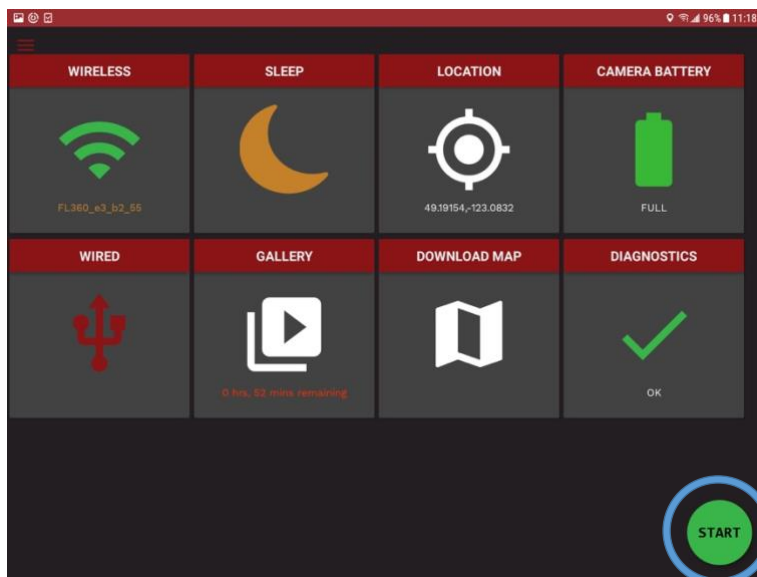
Figure 13: Tap the start icon to start live-streaming.

Step 10 (after usage of camera)
To power off the camera, press and hold the camera power button for 4 seconds until the multifunction LED turns off. Remember to always remove the FL360 Rechargeable Li-ion Batteries from the camera after use.

Wired Operation (USAR only)

Use this mode if the wireless signal between the FL360 Camera and Tablet is compromised.

Step 1-6

Repeat steps 1-6 from the wireless mode operation described above.

Step 7

Thread the camera onto the FL360 Collapsible/Telescoping Camera Boom.

Step 8

To install the coiled cable, collapse the telescoping boom. Insert the circular camera connector into the opening at the rear of the boom pole (fig 14).

Figure 14: Insert coiled cable into the rear of the boom pole.

Step 9

Slowly twist the coiled cable clockwise while at the same time pushing it toward the camera attachment point. When the circular connector is visible in the slot of the pole coupler (fig 15), pull it out and connect it to the port at the rear of the FL360 Camera (fig 16). The connector has an orientation notch, so carefully rotate the connector and apply slight pressure until you feel it click into place.

Figure 15: Circular connector has become visible in the slot of the pole coupler.

Figure 16: Circular connector connected to camera port.

Step 10

Connect the tablet cable to the end of the coiled cable (fig 19). Twist to secure (fig 20). The right-angled connectors naturally route the cable forward on the boom (fig 20 & 21). Plug the right-angled USB connector into the tablet (fig 22). Mount the tablet as desired (fig 23).

Figure 19: Twist to secure tablet cable to the end of the coiled cable.

Figure 20: The right-angled cables route forward on the boom.

Figure 21: The cables nestle into the rear of the boom when the boom is extended.

Figure 22: Plug the USB connector into the tablet.

Figure 23: Tablet mounted onto the boom.

17

Step 11

Open the FL360 App and tap the USB tethering icon (fig 24).

The app will take you to the Mobile Hotspot and Tethering Settings section within the tablet.

TURN ON the USB Tethering setting in this section (fig 25). Tap the USB tethering icon to finish connecting to the camera. The USB Tethering icon will turn green when it has finished connecting.
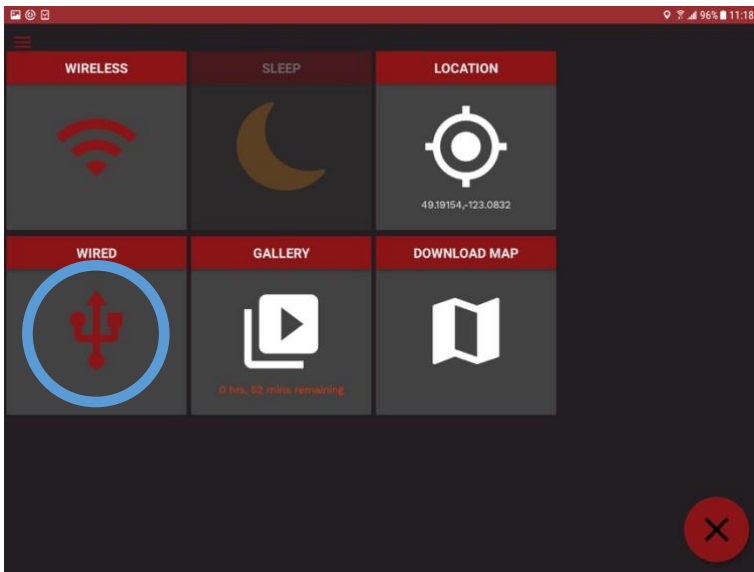
Figure 24: Tap the USB tethering icon to open the tablet's Mobile Hotspot and Tethering settings.
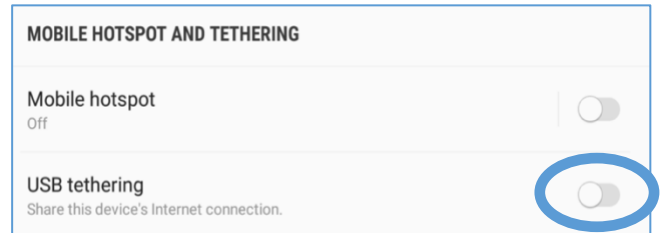
Figure 25: Turn on USB tethering.

Step 12

To start live-streaming, press the start icon (fig 26).

You will be taken to the Camera Control Screen where the camera will stream full 360°.

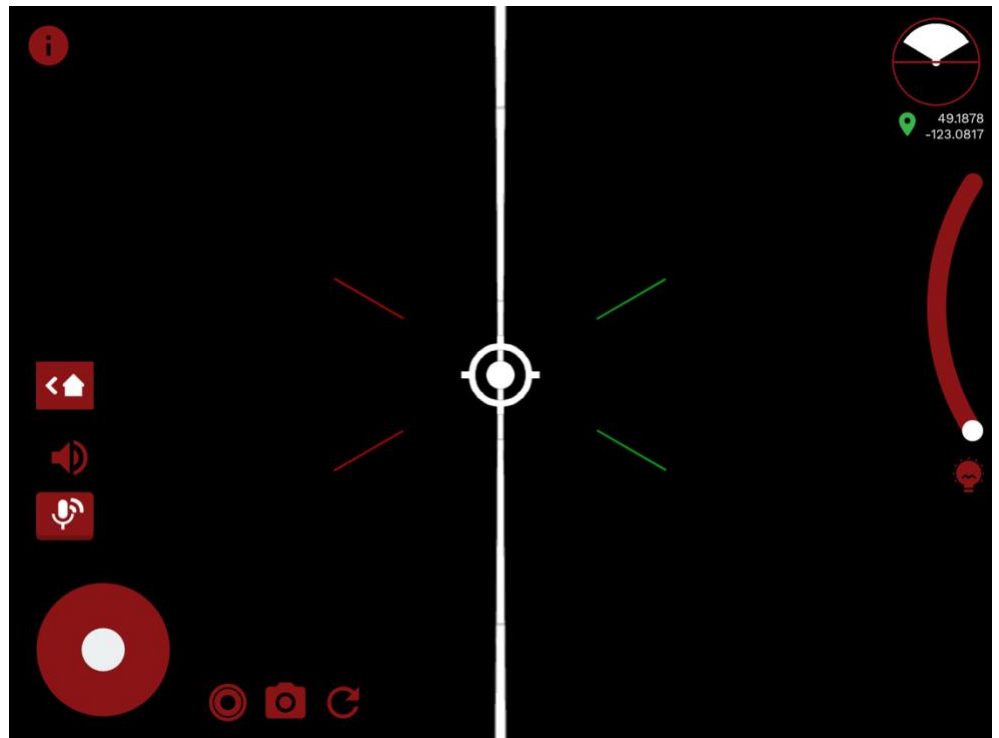See FL360 APP OVERVIEW on page 19 for more details.
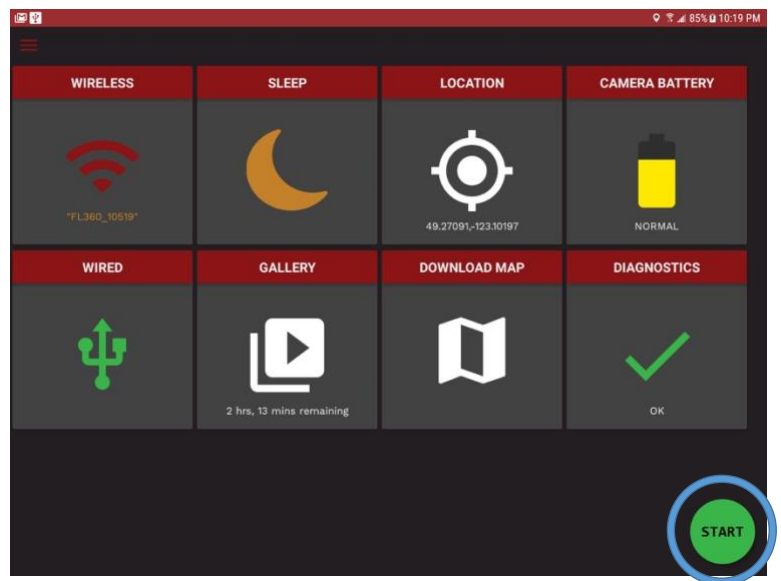
Figure 26: Press the start icon to start live-streaming.

FL360 APP OVERVIEW

**Home
Screen**
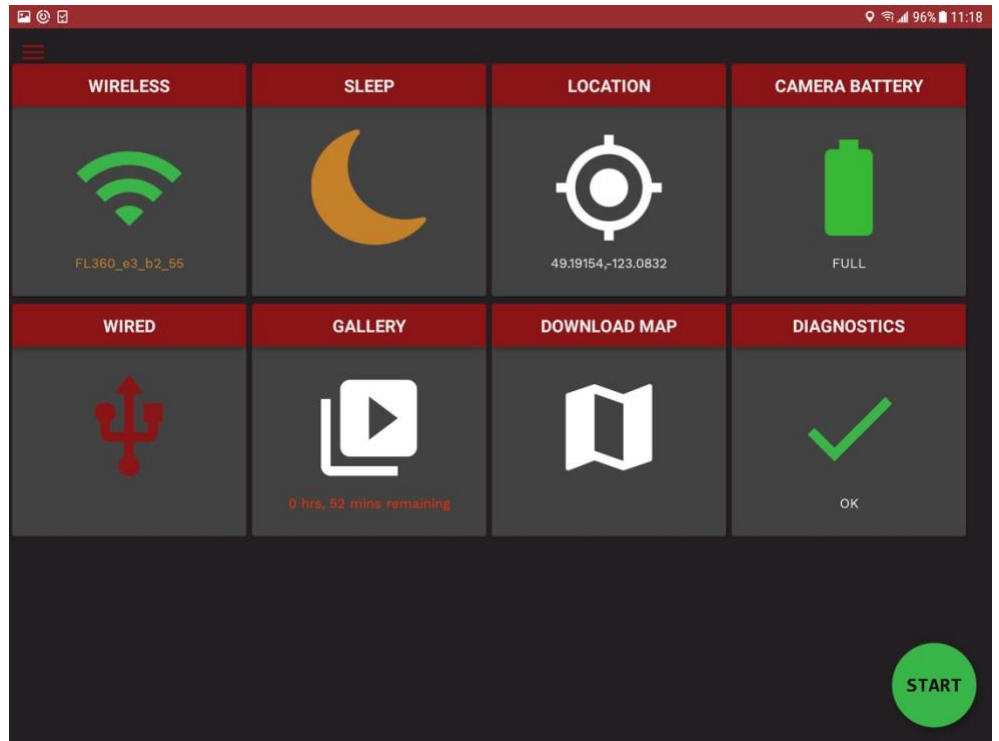
**Camera Control
Screen**

Camera Control Screen

Information Overlay

Tap the info icon on the top left of the screen (fig 27) to activate the instructional overlays in the Camera Control Screen (fig 28). This will give a quick overview of how to use the application's features.
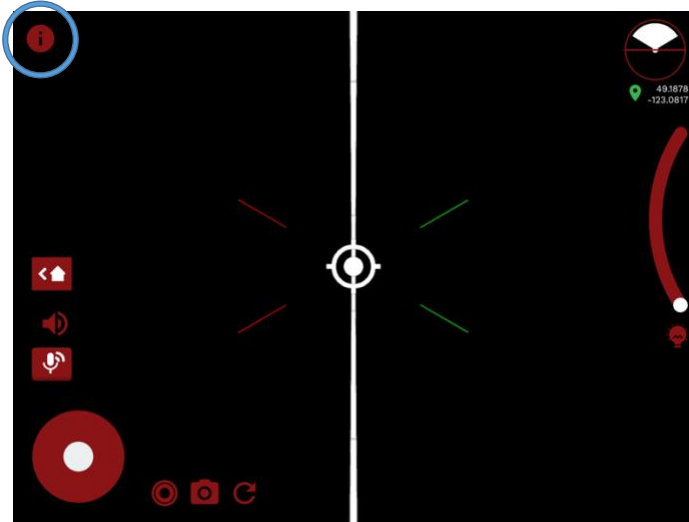

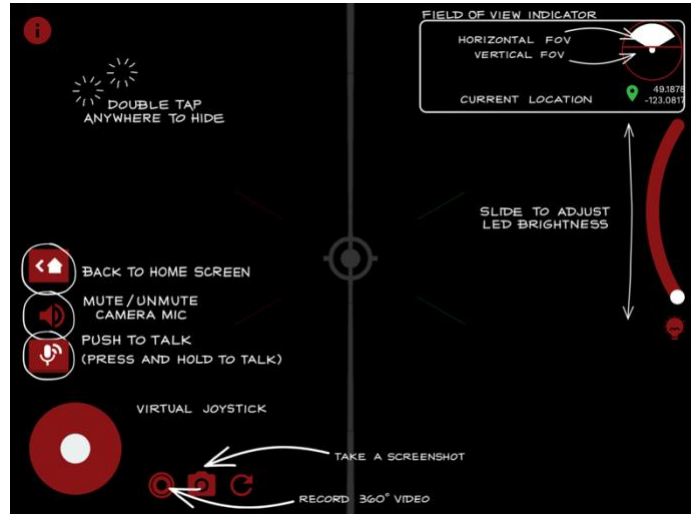Figure 27: Tap the info icon to activate the instructional overlays.

Figure 28: Camera Control Screens with instructional overlays visible.

Home

The Home button (fig 29) is located on the left side of the Camera Control Screen. Tap the home button at any time to return to the home screen.
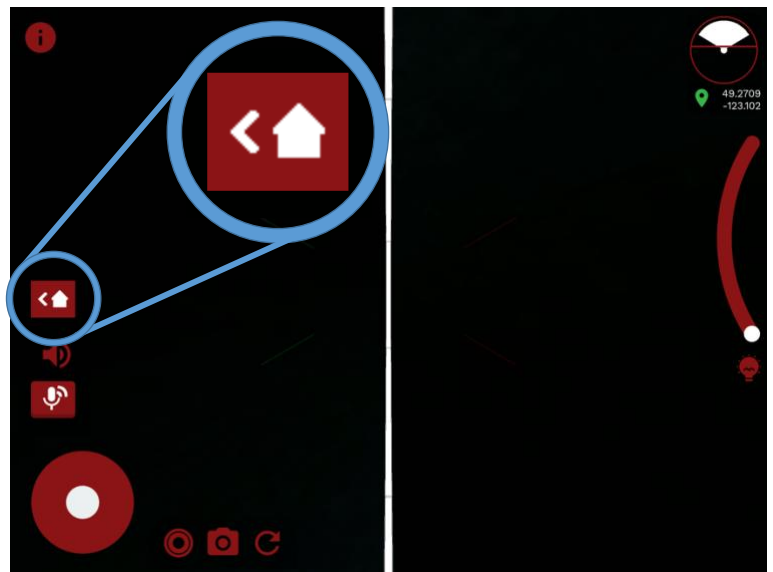

Figure 29: Home Button

Microphone Mute

The Microphone Mute button (fig 30) is displayed on the left side of the Camera Control Screen. Tap the Microphone Mute button to mute the FL360 Camera microphone. This is a useful feature that can be activated during positioning of the camera, so the operator avoids having to listen to scraping noises. The mute feature will automatically turn off after pressing the PTT button.

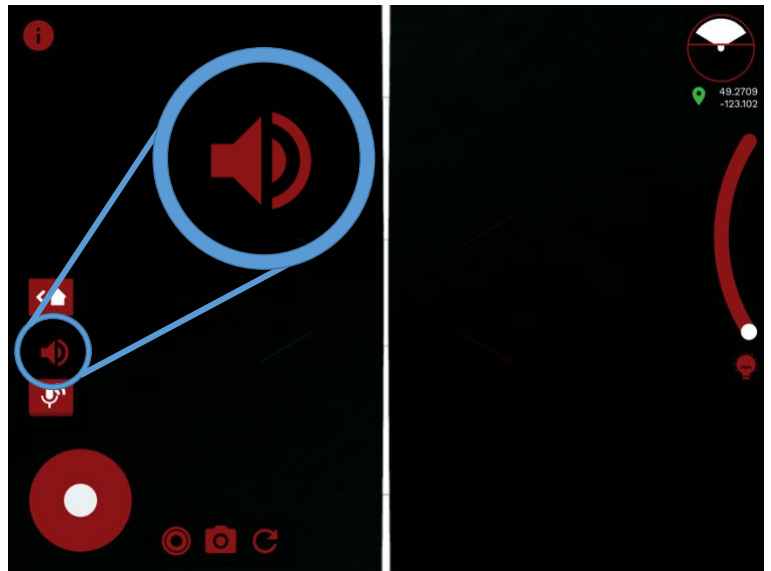**TIP**: go to the user settings menu to preset the default condition for the mute feature.

Figure 30: Microphone Mute Button

Push-to-Talk (PTT)

The PTT button (fig 31) is displayed on the left side of the Camera Control Screen. Tap and hold the PTT button to communicate through the speaker on the camera.
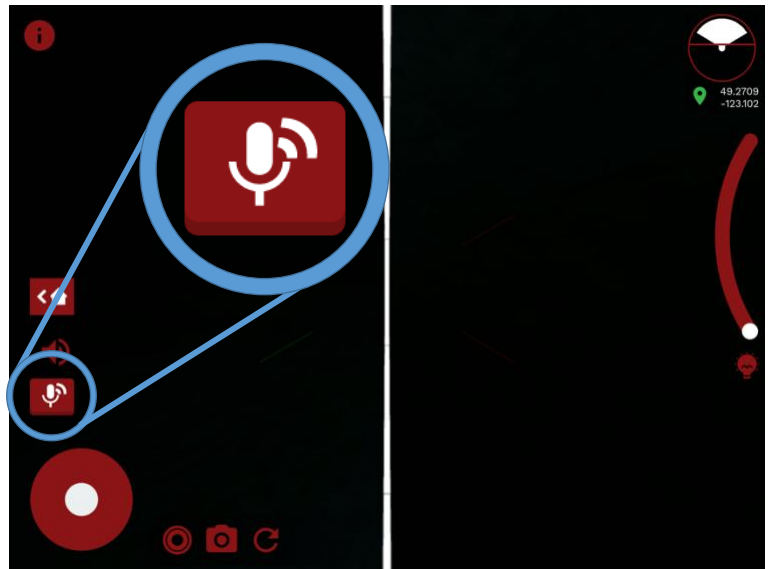

Figure 31: Push-to-Talk Button

Virtual Joystick

The Virtual Joystick (fig 32) is located in the bottom left corner of the Camera Control Screen. It allows one-handed operation while viewing spaces. Press and hold the white dot, then move it within the red circle in the direction you wish to view. Tapping the virtual joystick once will re-orientate the image so the camera view is back in the direction of the default forward view.
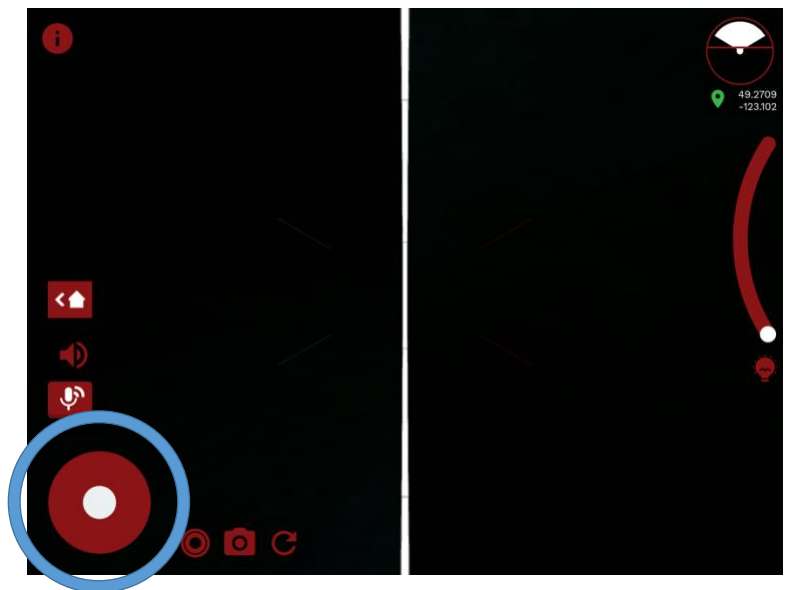

Figure 32: Virtual Joystick

Record Video

The Record Video icon (fig 33) is displayed at the bottom on the Camera Control Screen. This button allows the user to record 360° video with two-way audio, as well as date, time, and GPS coordinates. In addition, all video recorded is overlaid on a map to display the location of the recorded video(s).

To start recording, simply tap the Record Video icon. The icon will pulsate and a recording timer will be displayed while recording. Tap the icon again to stop recording. Videos are stored on the tablet's internal storage.

Figure 33: Record Video Icon

Screen Shot

The Screen Shot button (fig 34) is displayed at the bottom of the Camera Control Screen. Tapping this button allows the user to take a screenshot of the image currently visible on the Tablet's screen. Each screenshot is date, time, and GPS stamped. Screen shots are stored in the tablet's internal storage.
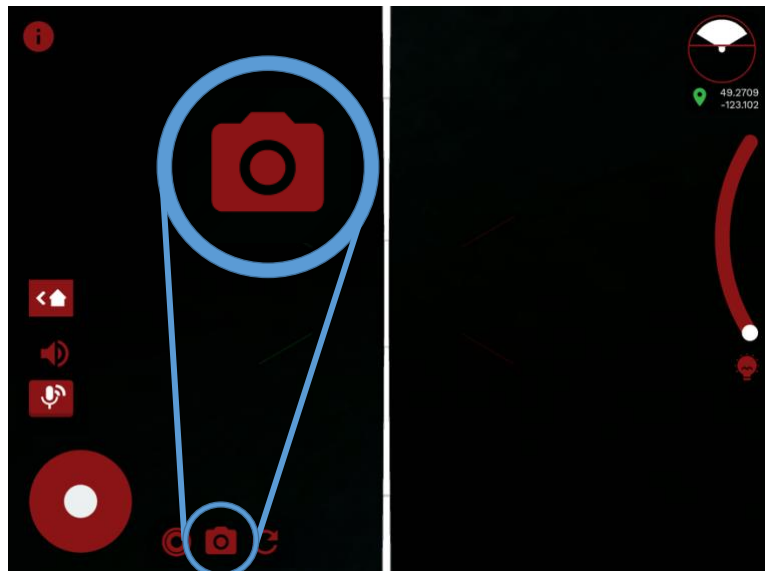

Figure 34: Screen Shot Button

Refresh

The Refresh button (fig 35) is displayed at the bottom of the Camera Control Screen. Tapping this button refreshes the video output of the camera. It is a useful feature in rare cases when video lag builds up or if the video starts freezing. Using this button does not affect the recorded videos in any way, and therefore is safe to use while recording.
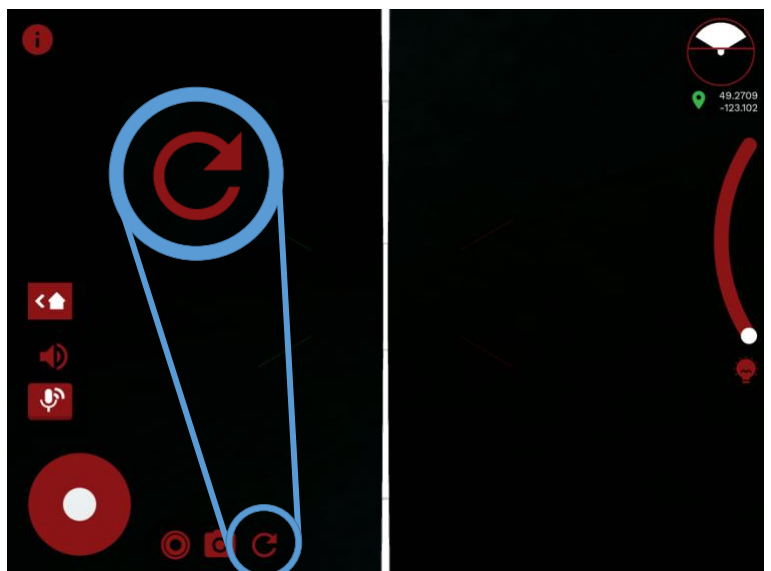

Figure 35: Refresh Button

22

Meridian Line & Forward Pointer

The Meridian Line (fig 36) is the division point between the FL360's two camera lenses. It supplements the FoV indicator (explained below) by providing the operator with an additional guide to orientate oneself within a space.

Additionally, the forward pointer marked with a bull's eye provides a spatial reference point that is on the same axis as the telescoping boom. The rear view of the camera is marked with an "X".
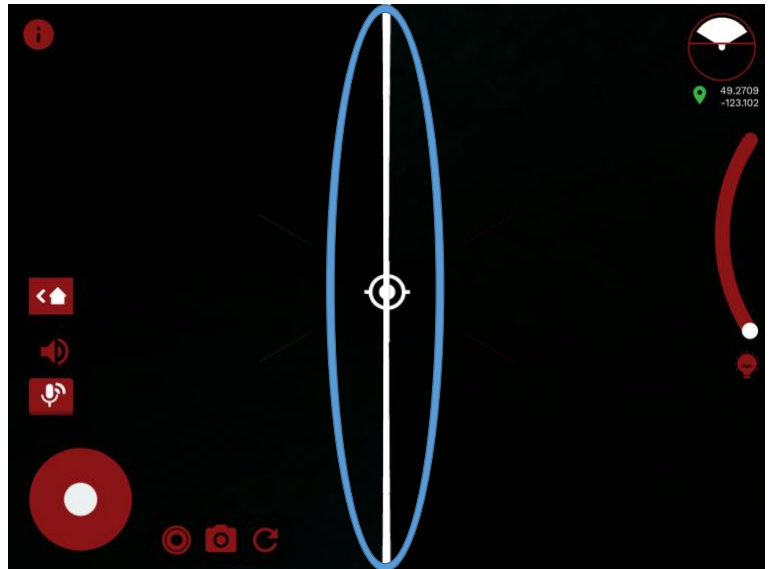

Figure 36: Meridian Line and Forward Pointer

Field of View Indicator (FoV)

The FoV indicator (fig 37), displayed on the top right of the Camera Control Screen, is designed to provide spatial orientation to the operator. The FoV indicator has two components: a horizontal FoV indicator and a vertical FoV indicator. The horizontal FoV is represented by the white sector and indicates the angle of the horizontal field of view as well as the total magnitude of the field of view.

The vertical FoV is represented by the red center line and indicates the angle of the vertical field of view relative to the telescoping pole.

When looking straight ahead, the FoV indicator will appear as in figure 37.
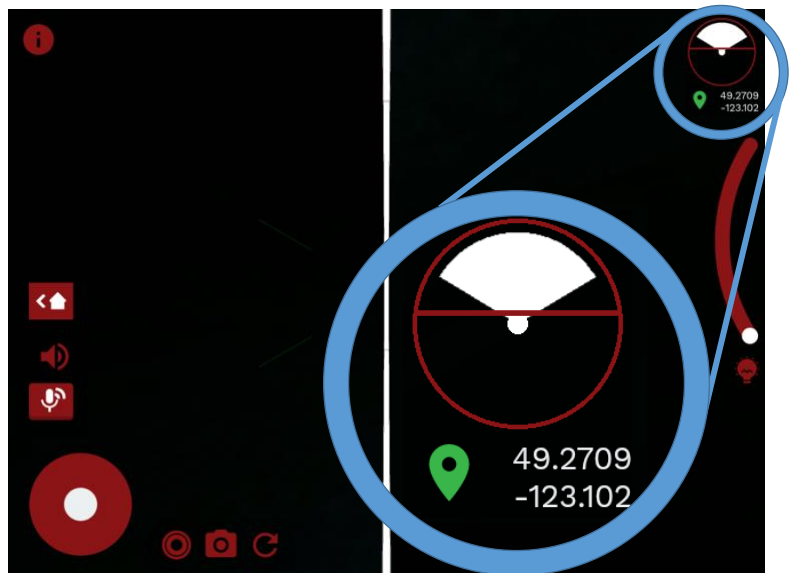
TIP: tap the FoV indicator to return the view back to the default forward orientation.

Figure 37: Field of View Indicator

Illumination LED Slider

The Illumination LED Slider (fig 38) is located at the far right of the Camera Control Screen. This slider allows the user to set the intensity of the camera's illumination LEDs by sliding a finger up and down its arc. Tapping the LED Slider will set the LEDs to full brightness or switch them off. As you adjust the slider, you will experience tactile and visual feedback on the tablet.
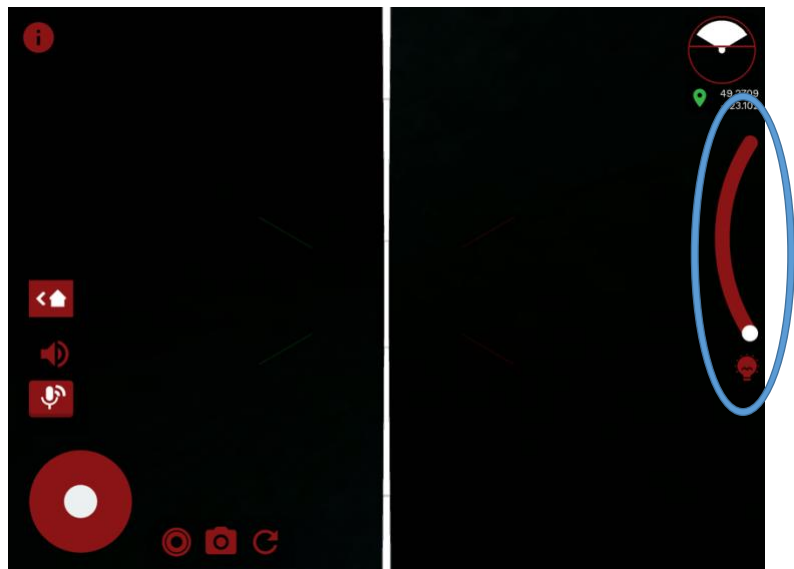

Figure 38: Illumination LED Slider

23

FL360 Settings - Slide Out Menu

To access FL360 settings, press the hamburger icon (fig 39) located at the top left of the diagnostics screen or simply slide your finger from the left side of the tablet in towards the center of the screen to access the settings menu (fig 40).
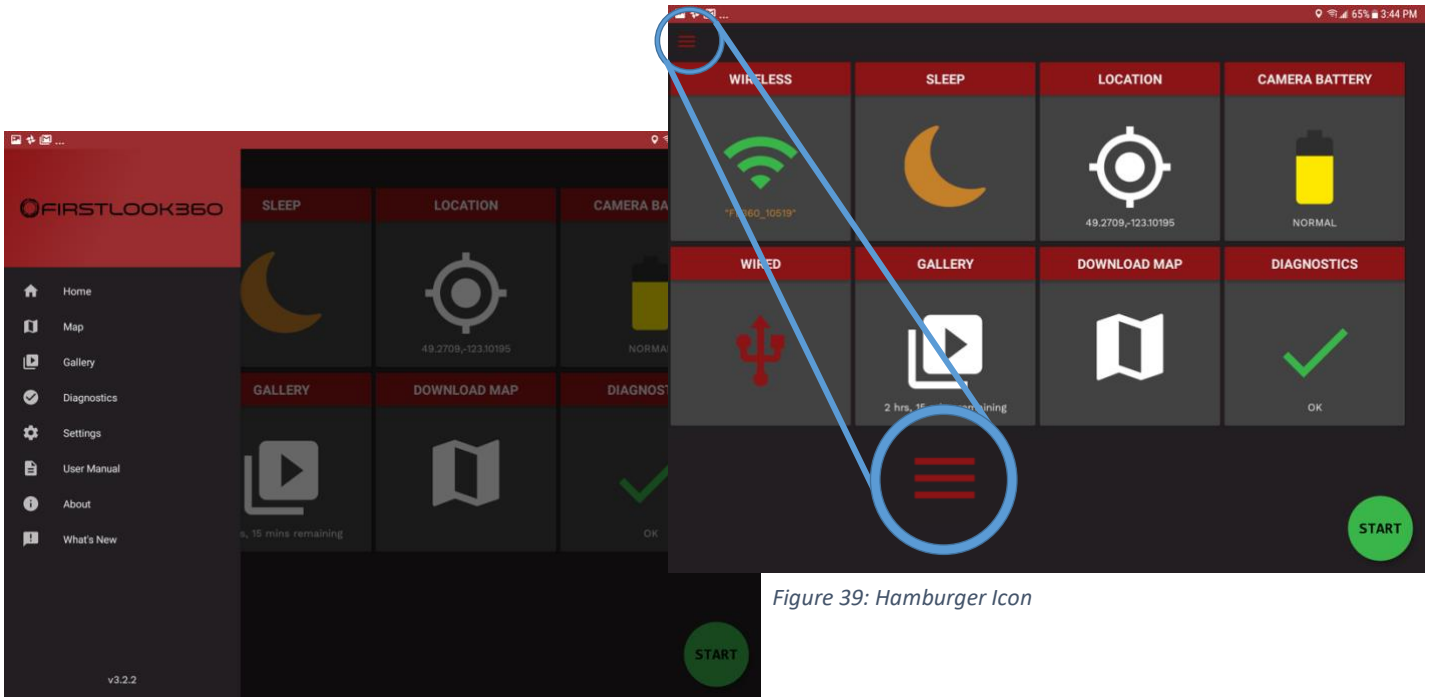
Figure 39: Hamburger Icon

Figure 40: Settings Menu

Pinch and Zoom

The pinch/zoom gesture (fig 41) allows the operator to digitally zoom in or out of a live stream, video, or image. Too zoom out, placing two fingers on the tablet screen and pinch them together while touching the screen. To zoom in, place two fingers on the tablet and separate your fingers from each other while touching the screen.

Figure 41: Pinch/Zoom Gesture

Searching the Spherical image

Searching a space can be accomplished in a number of ways:

1. Camera Control Screen

In live-streaming mode the FL360 Camera streams what it sees to the tablet (fig 42). Note that you may experience an approximately 0.5 second delay or latency as the Tablet processes, decodes, and stitches together the spherical image. Use a finger on the tablet's screen to move around the spherical image. Alternatively, the virtual joystick (see page 21 for more info) can be used for single-handed operation.

Figure 42: Live-Streaming Mode

2. Recorded video stream

If a space requires a precarious position or is difficult to access, the operator has an option to record the live stream by pressing the Record Video Button (see page 22 for more info). The 360-degree spherical recording can be thoroughly reviewed at any time after moving to a safer location. An alternative would be to share the images with a team member or someone off-site to conduct a more detailed search to ensure nothing was missed. Conveniently, all the recordings are data tagged with time, date, device ID, and GPS location.

25

3. Map View

Multiple videos taken at the same location will appear on the map as a cluster with the number of videos and images recorded. (fig 43) Tap the cluster to view all the videos in the selected location. The cluster will open up into a thumbnail gallery. (fig 44 - see page 27 for more info) Click on the thumbnail to view a specific video or image.
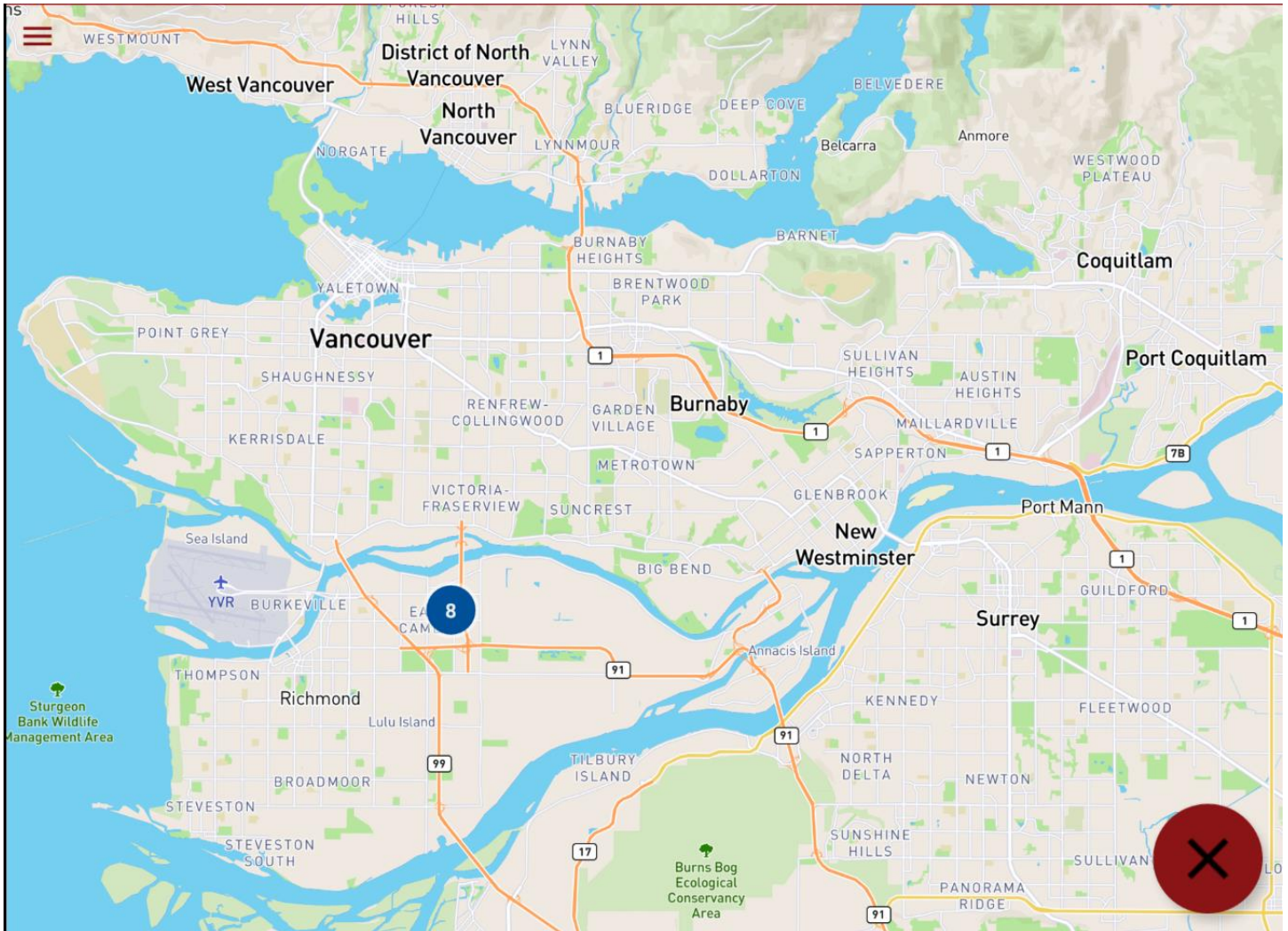

Figure 43: Map view, showing a cluster of 8 images/videos taken at the same location. Tap the number to view the images/videos.

Gallery / Viewer

Screenshot images

The gallery (found in the setting menu) allows you to preview and scroll through all screenshots taken by using the Screen Shot Button (see pages 22 and 28 for more info). Screenshots are captured images of what is visible on the screen only, not full 360° spherical images. It is possible to take and save a screenshot in any mode; recording, live-streaming, or playing back.

Video

Video is recorded in a proprietary 360° format that allows full 360° playback of the entire space and allows the user to search as if you would in a live scenario. This is helpful during training exercises and while getting comfortable searching using the FL360. Recorded videos are stored in the Gallery under the Videos tab (fig 44). Tap the "i" for meta data information captured with the videos for Time, Date, Location, Device identification, File Size etc. Under this tab you also have the option to delete the video.

Tapping the location icon will take you to the Map View (fig 43) and show you the location where the video was taken. Multiple videos taken in the same location are shown in a cluster.
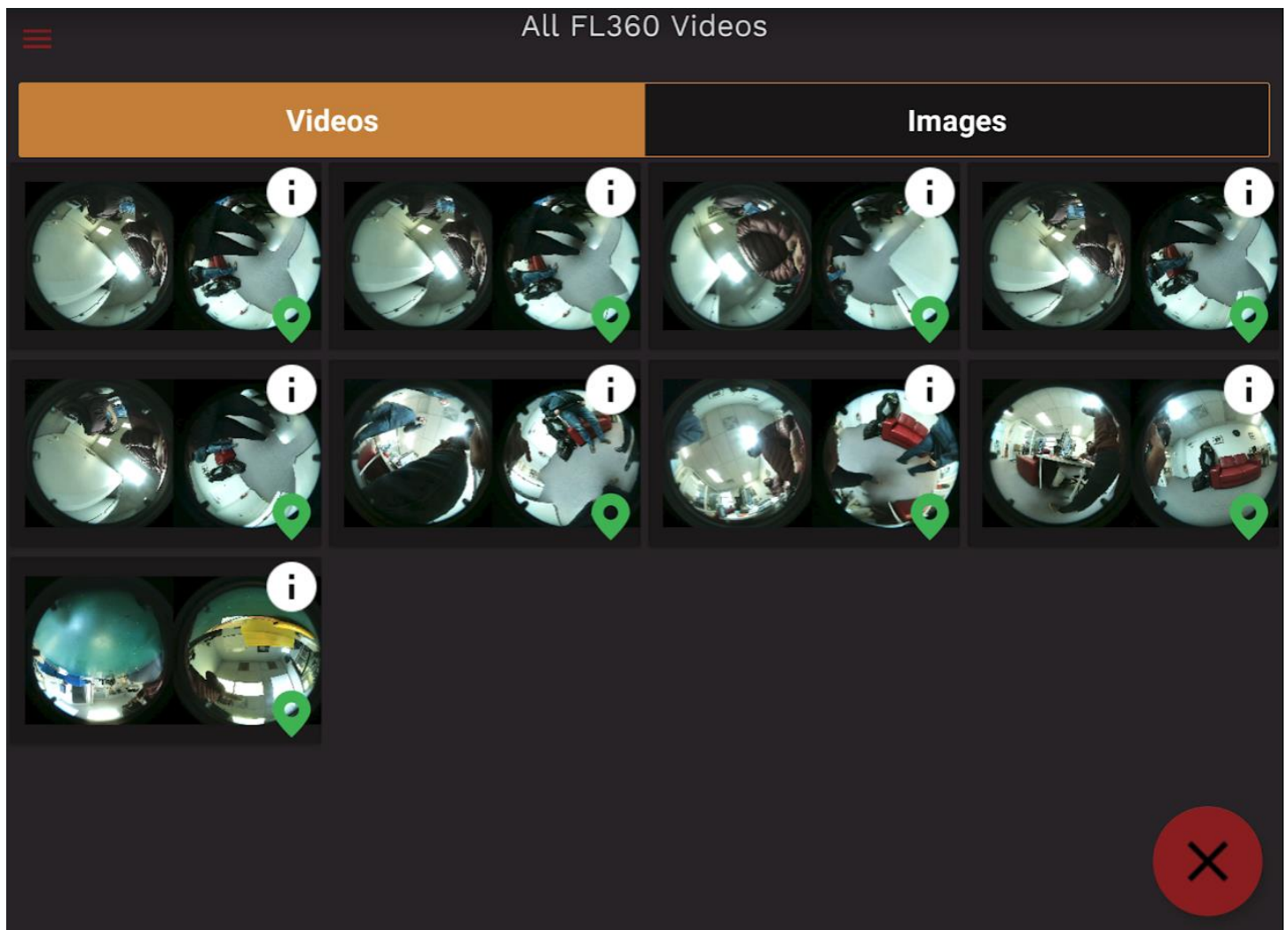

Figure 44: Recorded videos can be found in the Gallery under the "Videos" tab.

Gallery Playback Controls

While playing back a video, several controls show up in the bottom of the screen (fig 45):

1. **Screen Shot button –** Allows the user to take a screenshot while playing back a video
2. **Information button –** Displays stored meta data time date location and device ID
3. **Slider bar/Play/Pause** – Allows the user to play, pause, rewind, or fast forward recordings
4. **Share button** – Allows the user to share your videos or screenshots
5. **Loop button** – Enables 360 videos to play and loop indefinitely
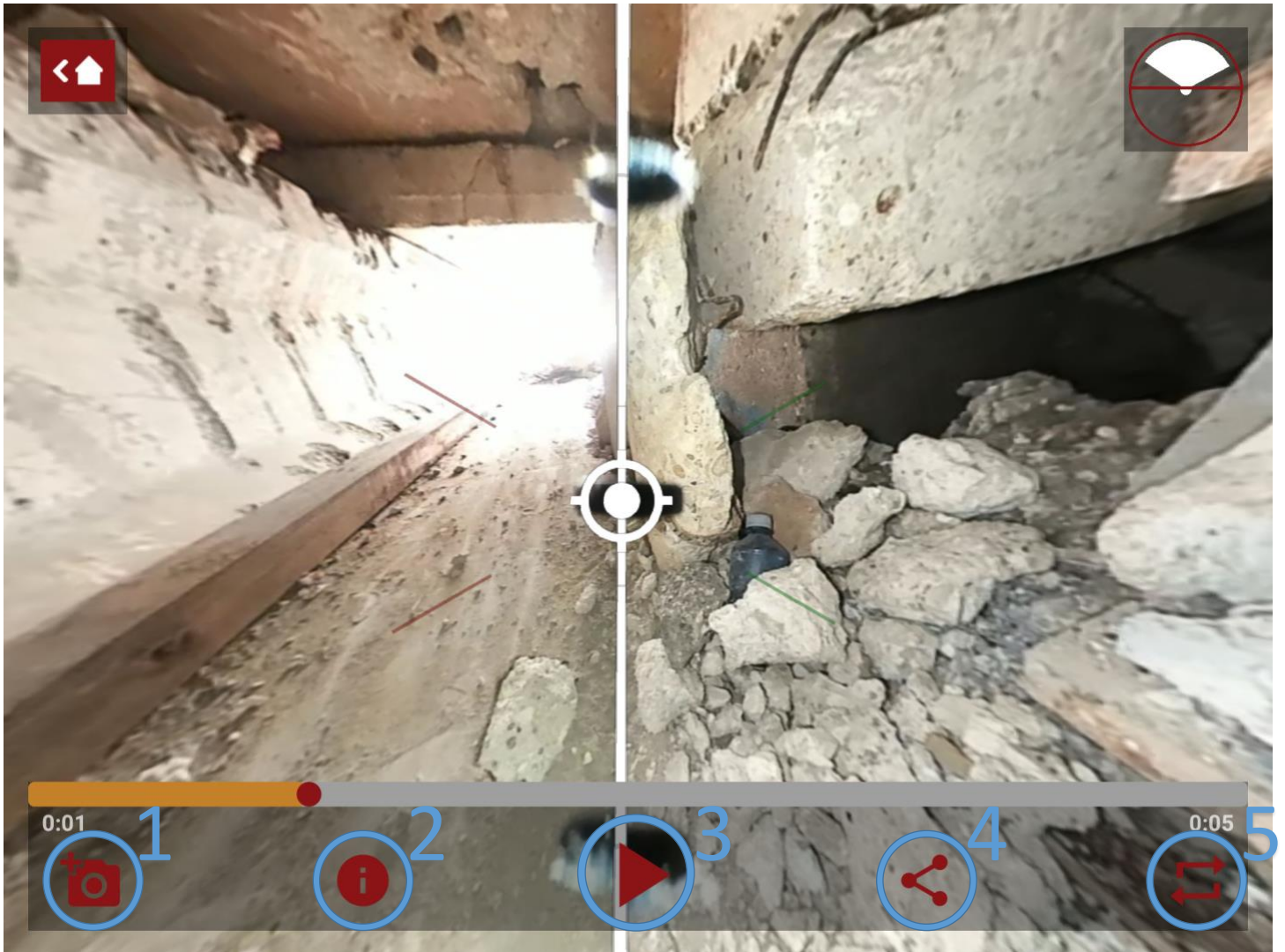

Figure 45: Gallery Playback Controls

Diagnostics Page

The Diagnostics Page (fig 46) displays automated Checks of major systems onboard the FL360 rescue camera.
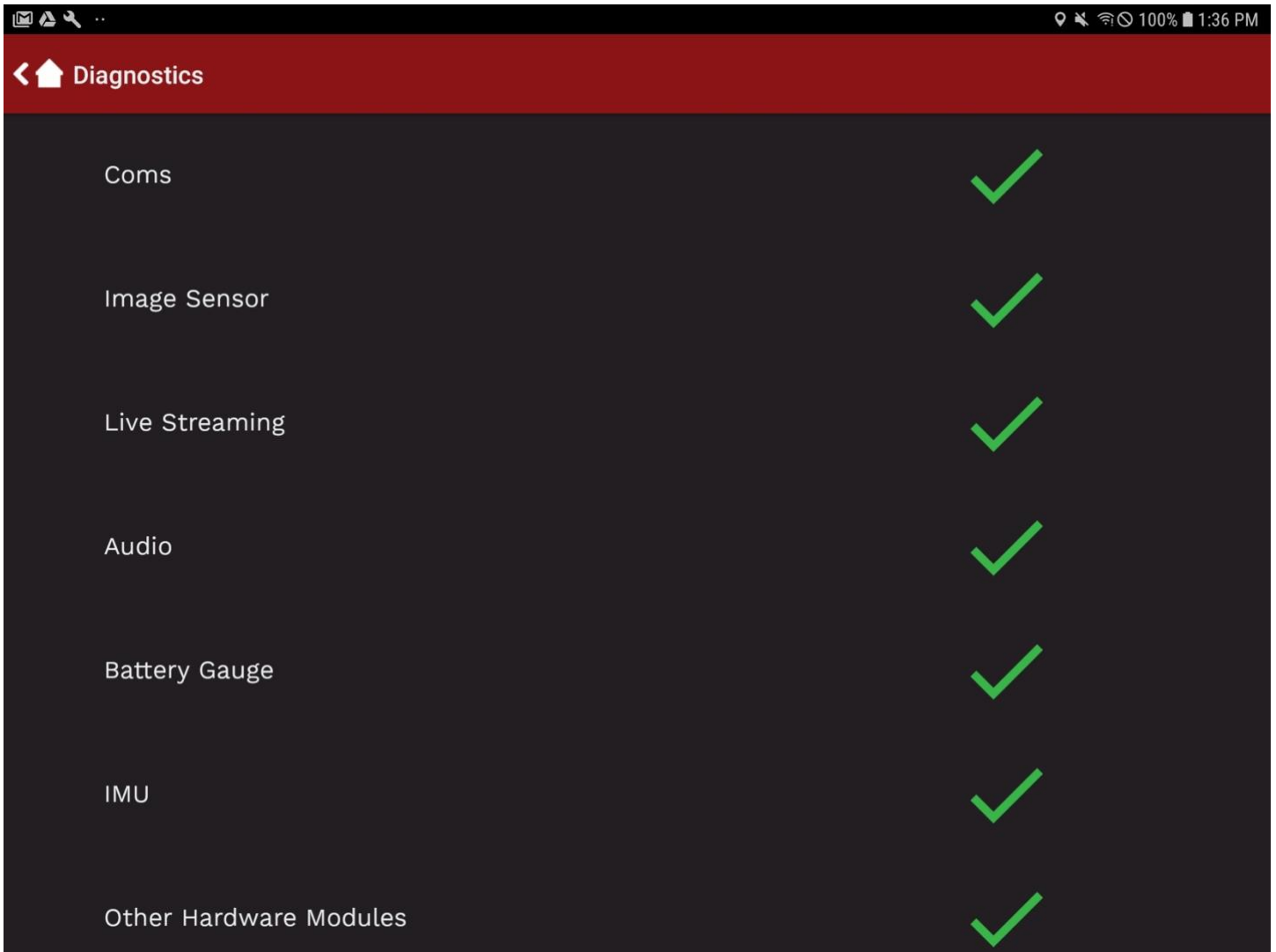

Figure 46: Diagnostics Page

Scroll down for more information such as firmware version number, CPU temperature etc.
If any of the Checks show as negative, please contact support (see page 34 for service information).

BATTERY HANDLING

FL360 Rechargeable Li-ion Battery with Protection Circuit

The FL360 Camera uses lithium-ion protected circuit 18650 batteries.
Fully charged FL360 batteries will typically last 4-6 hours, depending on use.
Keep batteries away from fire or other sources of heat above 80° C.
Storage Temperature: -10° C to 40° C

Hot Swapping

Batteries may be replaced one by one while the FL360 is operating. To do this, unscrew the FL360 Speaker/Mic Lid and begin to replace each battery separately with a fully charged replacement. Once complete, make sure to correctly install the FL360 Speaker/Mic Lid or FL360 Environmental Lid.

FL360 Smart Battery Holder (0607-52-004)

The smart battery holder is included in the kit to provide an additional layer of safety when transporting extra batteries on a person. The smart holder helps to prevent unintentional shorting of the battery contacts. It can also provide a handy method for keeping track of which batteries are charged and which batteries are discharged. To minimize discharging when not in use, it is recommended to always store FL360 Rechargeable Li-ion Batteries in the FL360 Smart Battery Holder.

RED end visible = Charged (fig 47) / BLACK end visible = Discharged (fig 48)

Figure 47   Figure 48

ALTERNATE POWER

CR123A Lithium Batteries - Adapter Tubes (0607-52-005)

The FL360 Camera will operate using four (4) CR123A lithium batteries as an alternative emergency power source. Each kit comes with a set of 2 adapter tubes. Each tube holds two (2) CR123A batteries (fig 49).

CAUTION: when putting the CR123A lithium batteries in the adapter tubes, make sure that the batteries are correctly orientated and observe correct polarity. Make sure that polarity markings on the adapter tube, batteries, and FL360 are aligned (fig 50).

WARNING: DO NOT USE CR123 lithium-ion batteries. Please note that the higher voltage of the lithium-ion cells could damage the camera's circuitry. Make sure to check the battery type before using the adaptor tubes. Understand the difference between lithium and lithium-ion batteries. Physical cell size is the same, but the chemistry is very different.
BEWARE: Use of lithium-ion batteries will void warranty.

Figure 49: Four CR123A lithium batteries inserted into two adapter tubes.

Figure 50: CR123A lithium batteries inside adapter tubes properly inserted into the FL360.

CARE & STORAGE

Care - FL360 Camera and Tablet

- Please keep lenses clean and free from dirt and fingerprints to avoid the degrading of picture quality.
- To clean the screen on your tablet, use a soft, lint-free cloth. We suggest you use microfiber cloths. Never use a paper towel or other paper-based towels as they can leave scratches on the screen.
- When dust or dirt does get on the lens, avoid direct contact with fingers, and either use a camera lens blower to blow off particles, or a soft camera lens cloth to gently wipe the lens.
- Never disassemble the FL360, as this is not only dangerous but will also void warranty.
- If the camera exterior becomes dirty, dry-wipe the exterior down using a soft cloth such as a microfiber cloth. If needed, a damp, well wrung-out cloth may also be used. Do not use solvents, as doing so may cause the external surface to deteriorate.

Storage - FL360 Camera, Tablet, and Batteries

- Please avoid using or storing your FL360 Camera and tablet in the following kinds of places, as this may damage the camera:
    - Places with extreme high temperature, high humidity, or rapid changes in humidity or temperature.
    - Places with large amounts of sand or dust.
    - Places where FL360 Camera or parts will be in contact with chemicals.
    - Places where strong magnetism is emitted (next to monitors, transformers, magnets, etc.).
- Always store your FL360 Camera and tablet in the provided case.
- Always store the FL360 Rechargeable Li-ion Batteries in the FL360 Smart Battery Holder when not in use.
- Be sure to charge the batteries before initial use, as they are not fully charged at the time of dispatch.
- Due to the characteristics of the batteries, use in cold areas will shorten the usage time even if the batteries are sufficiently charged.
- If storing for a long time, charge the batteries for around 30 minutes once every year.
- Do not recharge immediately after charging has been completed.
- Charge in an area with an ambient temperature between 10°C and 40°C. Charging in cold or hot areas may cause the batteries to deteriorate or prevent sufficient charging.

FL360 SPECIFICATIONS

Optical	
Object Distance	Approx. 1cm - ∞ from camera lens
Exposure Control	Individual AE per sensor
Image Sensor	3.4 MP 1/3" CMOS sensor (2.2um pixels)
Lens	f/2.0 (9-Glass)
Field of View	360° Effective Coverage 2x200° (HxVxD)
General	
Live-Streaming Resolution	960s HD - Dual 960p @ 30fps (1920x960)
Video Frame Rate	30 fps
Recording Medium	Tablet Storage (microSD expandable to 256GB)
Batteries	Removable Hot Swappable Batteries - 6800mAH (2 x 18650 Protected Batteries)
Alternative Power Source	4 x CR123A Lithium (2 FL360 CR123A Adapter Tube included)
Operating Temperature Range	-10 °C >--< 60°C
Audio	Speaker and microphone (2-way communication)
Wireless Connectivity	Wi-Fi 802.11n MIMO (Dual Antennas) 2.4GHz
Wired (Coiled Cable)	Expanded length telescoping tube - 10 ft
Mechanical	
Camera Diameter	1.95"
Mechanical Dimensions	10" x 1.95" ⌀
Construction	Aircraft Grade Aluminum (6061) and UHMW Nylon glass reinforced
Water & Dust Immersion Rating	IP68 Rated (with FL360 Environmental Lid) Protected from immersion in water at depths of up to 3 meters
Anchor Points	Dual Anchor Points: Rear 3/18-16 UNC – Front 10-32UNF

SERVICE

If your FL360 system requires service, or you have questions about the operation of FL360, please contact Agility Technologies at +1 604 259-1579 or email us at service@agilitycorp.com. Always contact us prior to shipping any items. The information on the Return Authorization Form and the corresponding RMA Number allow us to service you faster.

Before returning your FL360 system, please make sure to do the following:
1. Call or email us for a Return Authorization Number (RMA).
2. Describe the problem and ship only the parts requested by the service manager.
3. Include a copy of the RMA form in the box and print the RMA number clearly on the exterior of the shipping container.
4. Insure your camera during shipment.
5. Make sure to include contact information, return address, and a description of the reason for the return.
6. On the customs form, please make sure to include: "Country of Origin Canada – RMA return manufacturer for repair."
7. Customers are required to pay for shipping to and from the Agility office. For service under warranty, items will be shipped back free of charge.

Service Centre Location

Agility Technologies Corp.
12651 Vickers Way
Richmond, BC, V6V 1J2
Canada

Phone: +1 604 259-1579
email: service@agilitycorp.com

WARRANTY

All Agility FL360 (FIRSTLOOK360) products and accessories are warranted to be free from any defects in material and workmanship under operational use for a period of 2 years. This does not include damage caused by misuse, negligence, or abuse. No other warranties are expressed or implied. See website for more details.

Made in Canada

FL360 is designed, developed, and assembled in Canada using a combination of locally sourced and imported materials and components. Agility Technologies follows the Canadian competition bureau enforcement guidelines.