

# Garmin VIRB & FEMA Image Uploader

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# Overview

## VIRB:

- What is it?
- Why has CAP adopted it?
- What is deployment schedule?
- How does it work?
  - Preflight
  - Inflight
  - Postflight Upload
- Questions?



# What is the Garmin VIRB System?



Samsung Tablet

+



Garmin VIRB Camera

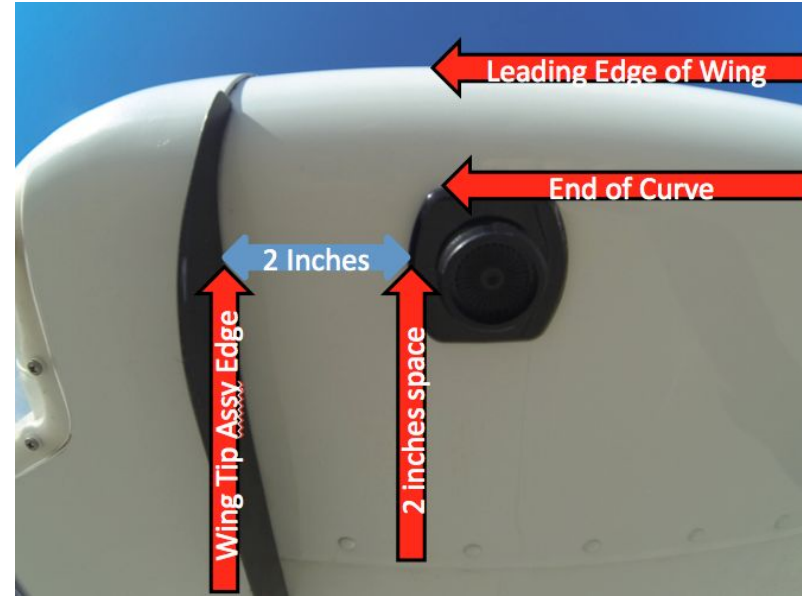
+



Underwing Mount

# What is the Garmin VIRB?

- Aircraft Mount & Attachment



# Why has CAP adopted VIRB?

## ● Capabilities

- Automatic collection of geotagged photos (built-in GPS)
- Standalone app allows fast delivery of imagery
- High resolution provides adequate detail for damage assessment
- Relatively simple to use
- Web site for advanced support of imagery loading
- Support for NEMA track log file (Web-Application only)
- Ability to verify damage levels
  - *Destroyed / Leveled*
  - *Major Damage*
  - *Minor Damage*
  - *No Apparent Damage*
- Imagery provides fast evaluation to determine if subjects should receive emergency payment for shelter, food and clothing.
- Crowdsourcing (lots of online available people) to review and grade the images



# Deployment Schedule

## CAP deployed 142 units in 2015

- Another 233 to be deployed beginning in early January 2016 (once all of the remaining parts arrive)
- Will be distributed evenly across the aircraft fleet.
- CAP goal is to have these kits deployed to 68% of the fleet by the end of January 2016
- NHQ will coordinate with each Wing Commander to determine where these resources will be assigned
- Each Wing command staff will coordinate which squadrons will have these units



FEMA





# How does it work?

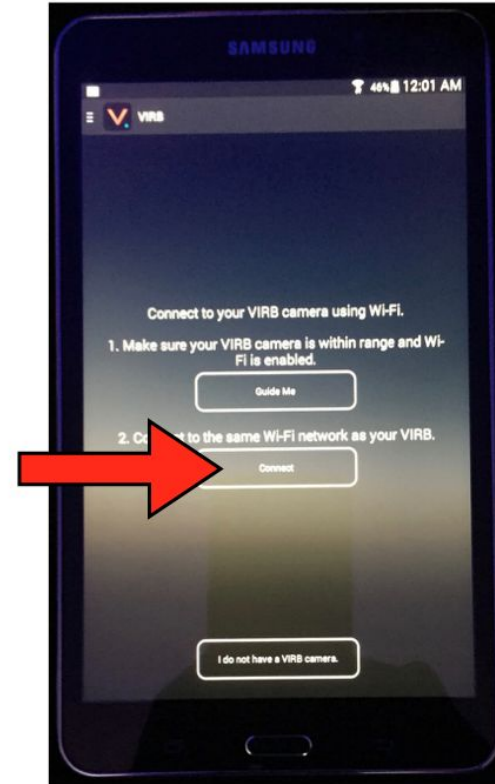
- Preflight
  - Turn on camera
  - Attach camera to wing mount
  - Turn on Samsung Tablet
    - Log into account (using ID & password on back of tablet)
    - Tablet **User ID** is the same as the label on the back (i.e: **CAP2051196**)
    - The **Password** is in the following format:  
“cameraXXXXXXXX” where XXXXXXXX are the numbers ONLY from the label (i.e. **camera2051196**)



# How does it work?

- Preflight

- Launch the VIRB app on the Samsung Tablet
  - To start the Garmin Virb app, simply tap the icon on the screen with your finger
  - The app will open---select “Connect”
  - The app is now ready to wirelessly accept photos from the camera and store them on the tablet





# How does it work?

- Preflight

- Verify camera settings
  - Click on the small wrench icon at the bottom of the screen within the app to verify that the settings (on the right) have been configured:



#### Camera:

- Locate Camera - Ignore

#### Video:

- Mode: Time Lapse
- Interval: 10 Seconds
- Field of View: Wide
- Loop: Off
- Auto Record: Off

#### Stills:

- Resolution: 16 MP
- Burst Mode: Not Selected
- Self Timer: 10 Seconds
- Repeat: SELECTED
- Date Stamp: Not Selected

#### Advanced:

- Lense Correction: Not Selected
- Digital Stabilizer: Not Selected
- Flip Camera: Not Selected
- GPS: ON
- Recording Light: SELECTED
- Tones: SELECTED
- Power Save: Not Selected
- Microphone: Not Selected

Once you have verified the settings are configured properly, you can return to the main app screen by selecting the return button at the bottom of the device:



# How does it work?

- Inflight

- Proceed with normal Engine Start, Taxi, & Takeoff Procedures
- As you approach the target area, activate the camera
  - To start taking photos at 10 second intervals, press the Camera icon on the bottom of the screen:

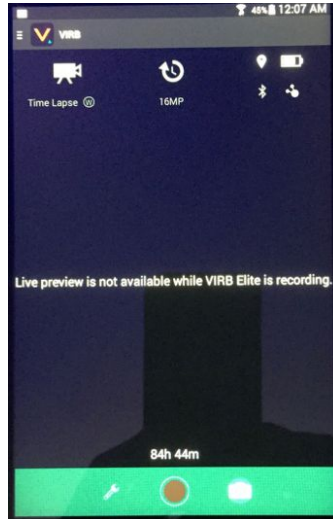


DO NOT PRESS THE RED DOT located in the center! This will initiate the VIDEO recording feature. We don't want to record video.

# How does it work?

- Inflight

- To verify that the camera is working, the bottom of the screen will turn green as shown below:



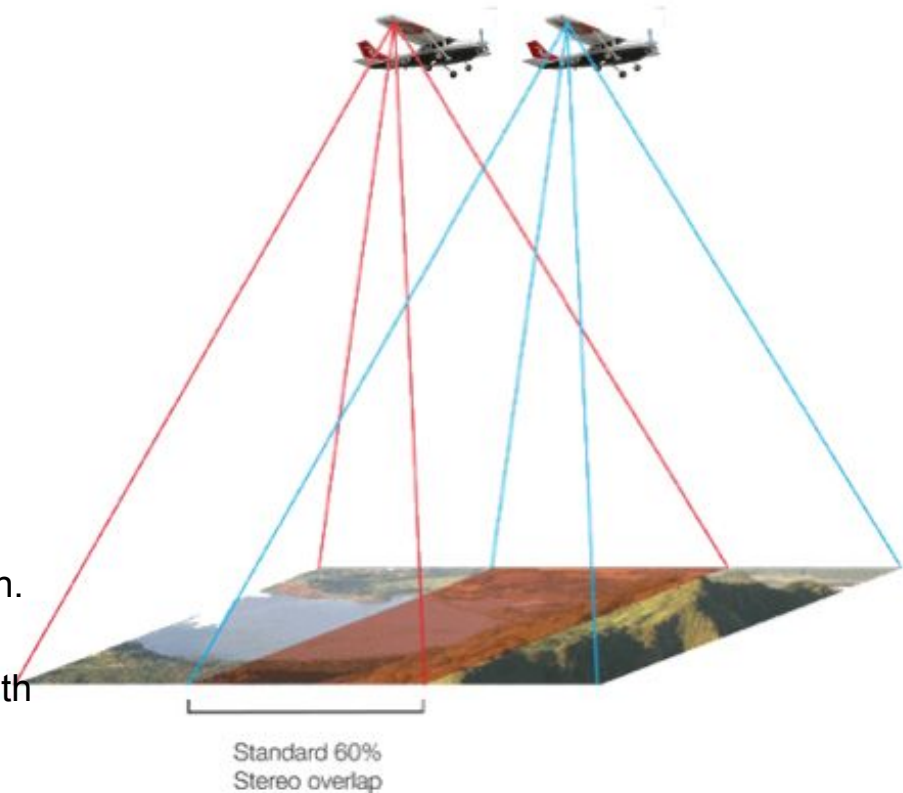
# Flight Profile 1

## Flight Profile #1

- 2500 AGL
- 100 KTS Ground Speed (+/- 5 KTS)
- Suggest 1 notch of flaps for wing level flight
- Camera at 10 Second intervals
- ½ mile grid or “line to line” spacing
- or As Briefed

## Profile Yields:

- 2500 AGL, 100 KTS, => ~57% Endlap
  - **Endlap** is overlap ALONG the flight path.
- ½ mile grid (line to line) => ~100% Sidelap
  - **Sidelap** is overlap flight path to flight path



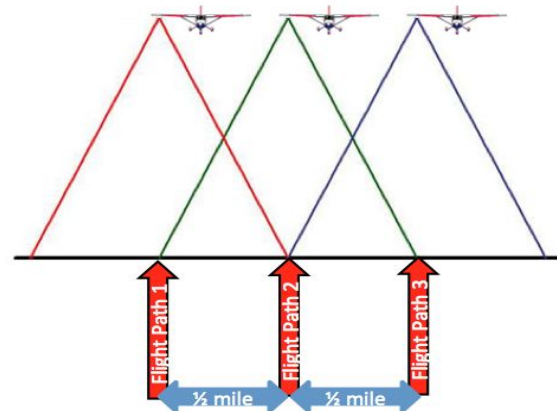
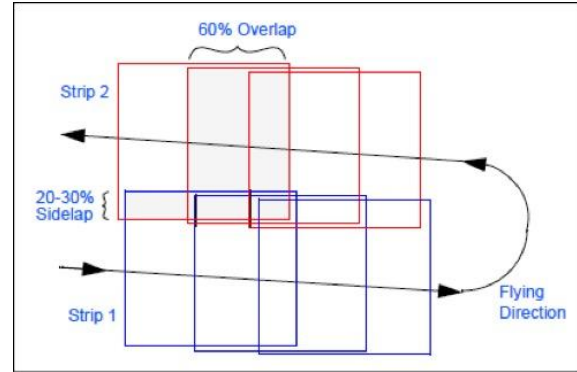
# Flight Profile 2

## Flight Profile #2

- 1500 AGL
- 100 KTS Ground Speed (+/- 5 KTS)
- Suggest 1 notch of flaps for wing level flight
- ½ mile grid or “line to line” spacing
- Camera at 10 Second intervals

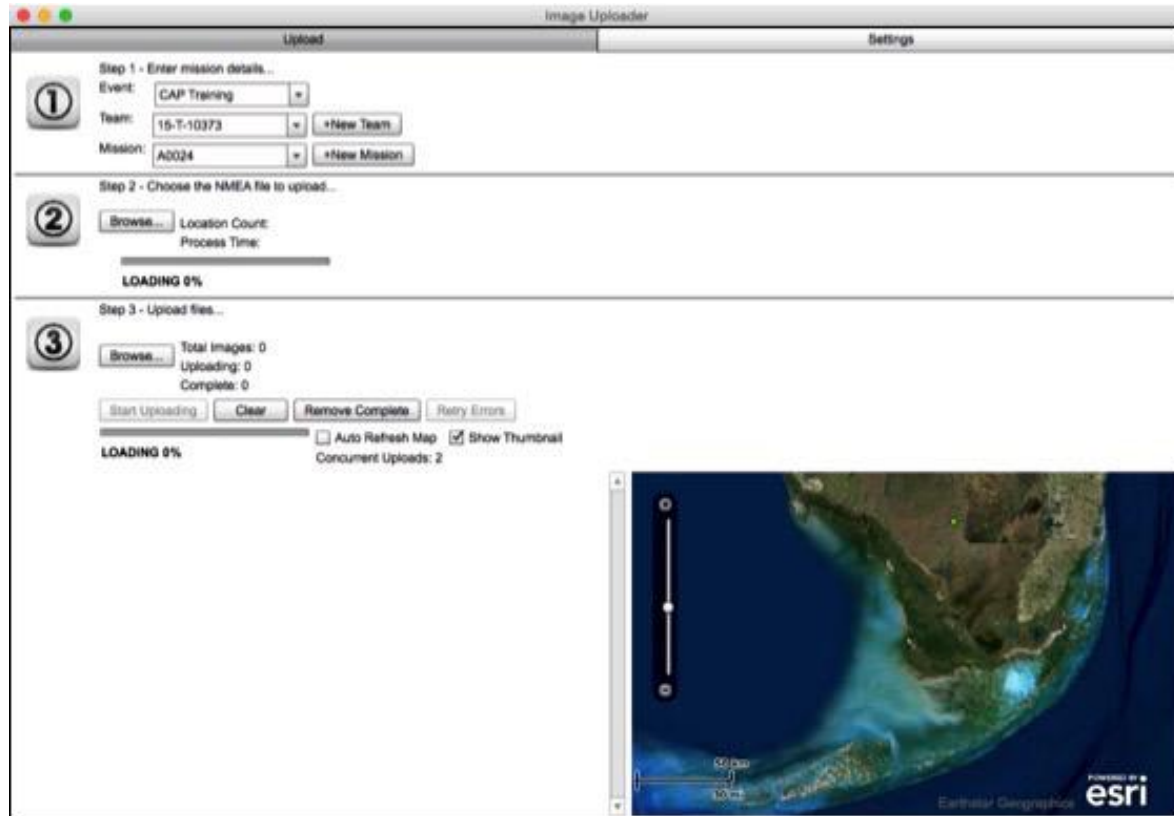
### Profile Yields:

- 1500 AGL, 100 KTS, => ~24% Endlap
- ½ mile grid (line to line) => ~61% Sidelap



# FEMA Uploader

- Simple, standardized upload procedure
- Common upload location
- Requires authorization to upload AND view
- Should be used only for FEMA missions



# Software Requirements

## Software Version:

- The latest version of the FEMA ImageUploader is IEUploader082.zip (**v0.82**)

## Prerequisites:

- It requires Adobe AIR to run, you may have to download the Adobe Air application at <http://get.adobe.com/air/> (Mac and PC)

## Approved Browsers:

We have tested accessing the uploaded photos using the following Browsers:

- Internet Explorer, Google Chrome, Firefox, Safari (Mac)

## Setup:

- After installing the App, go to the “Settings” tab and change the URL to <https://apps.femadata.com/ImageEventsService/API.svc>
- Your token is: <assigned to your wing by the NOC>
- Make sure there are no spaces at the end of the token or URL when you add them.
- After adding the URL and Token, click “Save Settings” and close the App.
- Close and Re-open the application and you should see events listed in the “Event” drop down list.



# FEMA Uploader: Procedures

- Abbreviated procedure manual will be placed in each kit
- Training sorties are still being worked out

The image displays two screenshots of the FEMA Uploader web interface. The left screenshot shows Step 1, 'Enter mission details...', with a form containing fields for Event (CAP Training), Name (15-T-10941), and Mission (A0006). A red arrow labeled 'Mission Number' points to the Name field, and another red arrow labeled 'Sortie Number' points to the Mission field. Below the form is the 'Uploading Images:' section with instructions for Step 1, including details about Event creation, Team assignment, and Mission entry. The right screenshot shows Step 3, 'Upload files...', with a progress bar at 0% and buttons for 'Browse', 'Short Linking', 'Clear', 'Remove Complete', and 'Retry Errors'. Below this is the 'Uploading Images:' section with instructions for Step 3, including details about folder selection, image resolution, and error handling.

**Uploading Images:**

1) Step 1 - Fill in the Mission Details:

- Event (can only be created by Managers):
  - For Training Missions, use **Event CAP Training** (unless instructed to do otherwise)
  - For Actual Missions use the supplied Event from National Operations Center (NOC)
- Team:
  - Enter the **MISSION NUMBER** you were assigned
- Mission:
  - Enter the **SORTIE NUMBER** from your flight

2) Step 2 - Optional:

- Browse to the folder on your computer that contains your **NEMA GPS** files. (Only NMEA files are currently supported. Not GPX or KML)
- Select the appropriate file and upload.

**OPTIONAL NEMA file format only**

3) Step 3 - Loading images:

- Browse to the folder on your computer that contains your mission photos
- Select and upload (Note: it will upload all files in the directory you select) on a high speed internet connection, obviously longer on a slower speed connection. Remember the images taken in **JPEG Fine** resolution are in the neighborhood of 4 Megabytes each. (No need to be shooting RAW images or any other format.)

4) Step 4 - Upload images:

- Depending on the numbers of photos taken, this can take a long time
- All files being uploaded will be listed. Any errors will be listed with an alert symbol (yellow triangle with a "I")
- After the upload completes, you can click **Retry Errors** and Upload. Once it uploads images, it will remember which ones are uploaded and not try them again. If you add any more images, it will upload those new images only.

# Questions?

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