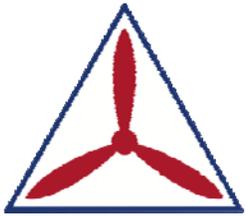


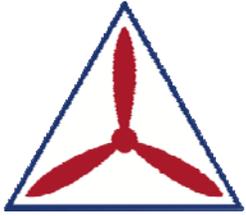
Garmin Virb Kit Deployment

- ✂ CAP will be deploying 142 units by the end of November and then another 233 in early January once all of the remaining parts arrive.
- ✂ We will be making an even distribution across the aircraft fleet.
- ✂ The goal is to have these kits deployed to 68% of the fleet by the end of January
- ✂ Prior to shipment, NHQ will coordinate with each Wing Commander to determine where these resources will be assigned.
- ✂ Do not contact NHQ requesting one for your unit. Please work with your command staff.



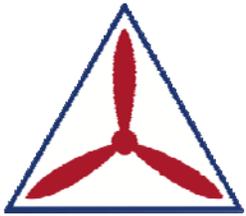
Project Definition

- ↘ Fast Delivery of Imagery
- ↘ Sufficient Detail for Initial Damage Assessment
- ↘ Simple to use system of Camera's and mounts
- ↘ Ability for use with all Disaster Types



Project Goals

- ✂ Stand alone Application for loading imagery
- ✂ Web site for advanced support of imagery loading
- ✂ Support for Geo-Tagged
- ✂ Support for Non Geo-Tagged images with NEMA track log file
- ✂ Simple kits including a camera and mounts to be issued to wings



Customer Use of Imagery

✂ Fast online evaluation of damage

- Wind, Flood, Fire Earthquake

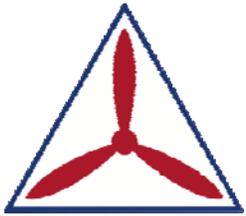
✂ Ability to verify damage levels

- Destroyed / Leveled
- Major Damage
- Minor Damage
- No Apparent Damage



Customer Use of Imagery

- ✂ The imagery will provide a fast evaluation to determine if the homeowner should receive emergency payment for shelter, food and clothing.
- ✂ The imagery is not for the determination of payment on the structure / automobiles etc.
- ✂ Crowd Sourcing (lots of online available people) to review and grade the images



Equipment – Garmin Virb Kits

- ✦ Garmin Virb Elite
- ✦ Additional mounting pads & batteries, Memory card (64GB), USB charger, dive case.
- ✦ Samsung Galaxy Tab 4
- ✦ Cover
- ✦ Pelican Case
- ✦ Accessories
- ✦ Manual(s)



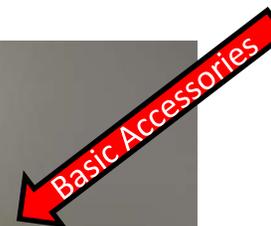
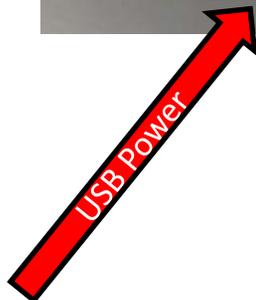
Equipment – Garmin Virb Kit



Two SD card adapters not shown
Black USB cable for Virb



Garmin Virb Kit - Accessories





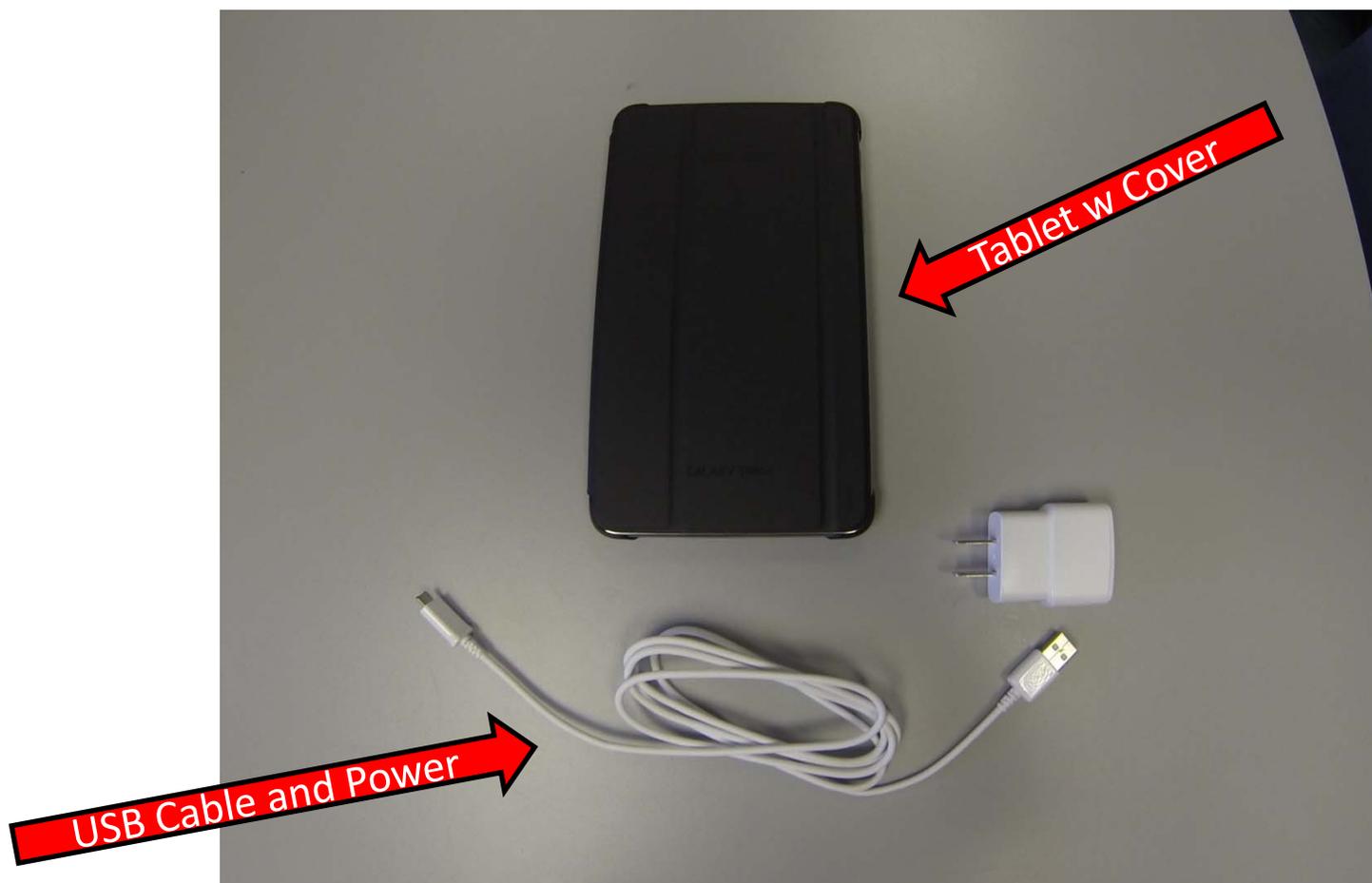
Garmin Virb Kit - Camera



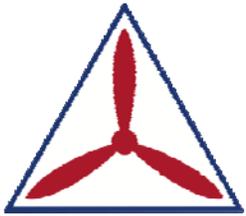
Dive case not normally used. Only for use in rain or high humidity



Garmin Virb Kit - Tablet



White USB cable for Galaxy tablet



Garmin Virb Kit - Tablet

- ✦ Note: the kits supplied in November 2015 came with two SD card adapters but no extra SD cards for the Virb.
- ✦ Images can be pulled from the Virb using the USB cable and treating the device like a thumb drive, SD card inserted in the PC, etc.
- ✦ To remove the card from the Virb the battery must be removed, a slider moved and the card lifted out.
- ✦ To minimize card damage the USB cable process is recommended.
- ✦ Images should be placed in folder specific to the “sortie” (Mission in FEMA uploader language).
- ✦ The uploader will upload all jpg images in the selected folder so images not specific to the target area need to be removed before uploading.
- ✦ A track log can also be downloaded from the Virb.

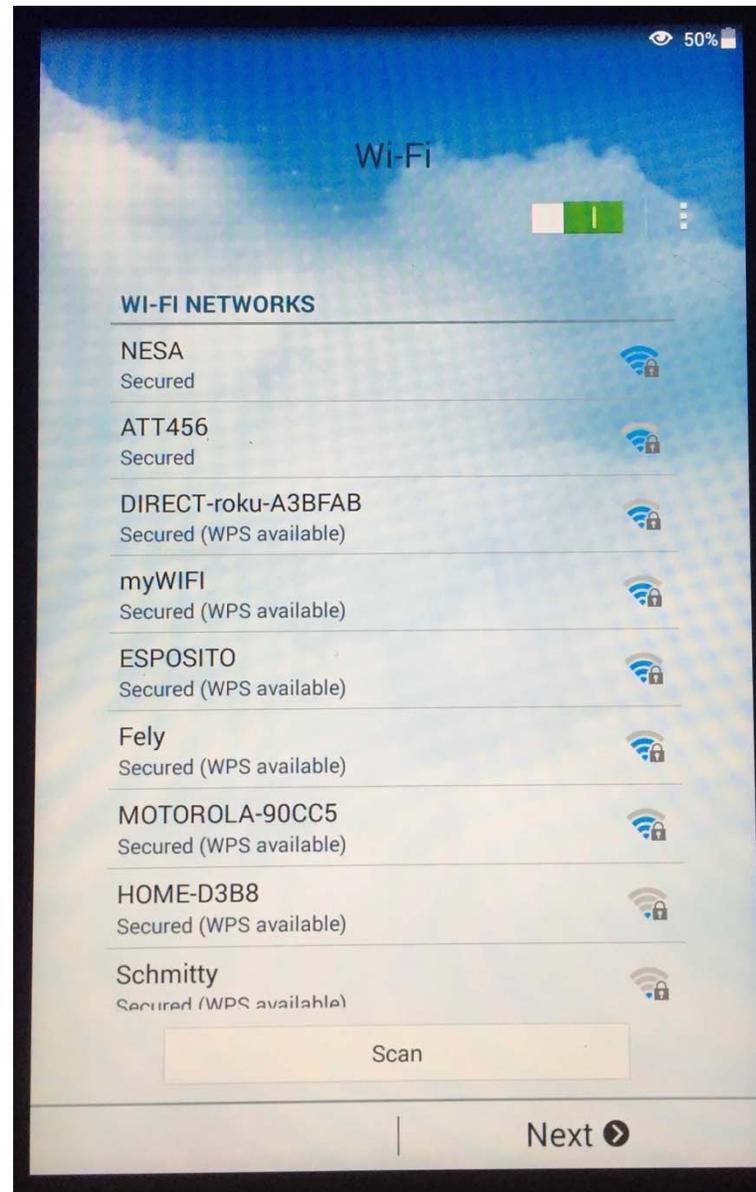


Garmin Virb Kit - Tablet





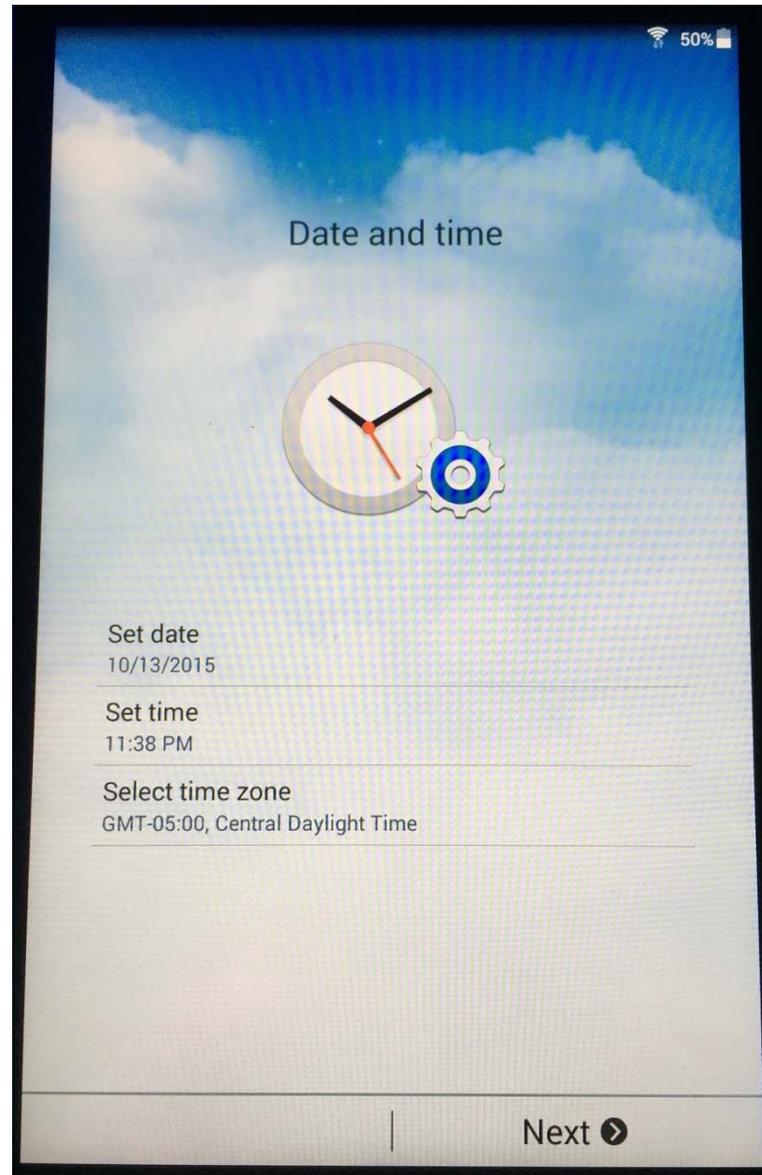
Garmin Virb Kit - Tablet



Network connection
required for initial setup



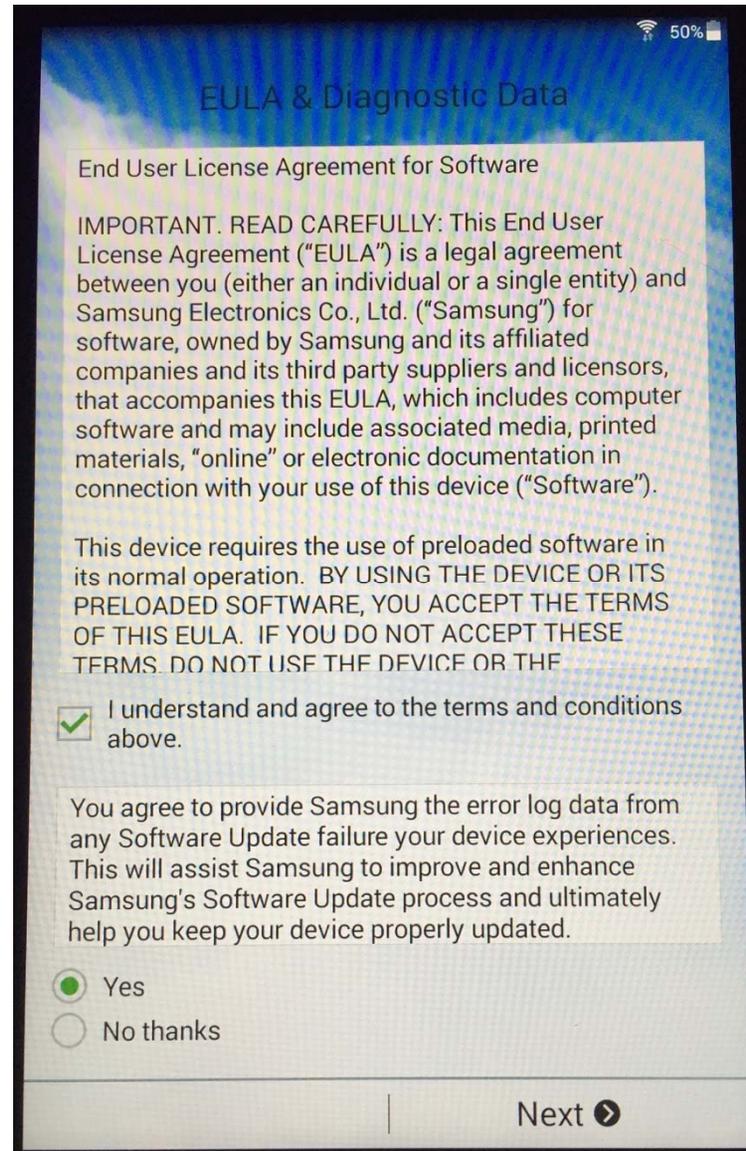
Garmin Virb Kit - Tablet



Set date, time and time zone for your location



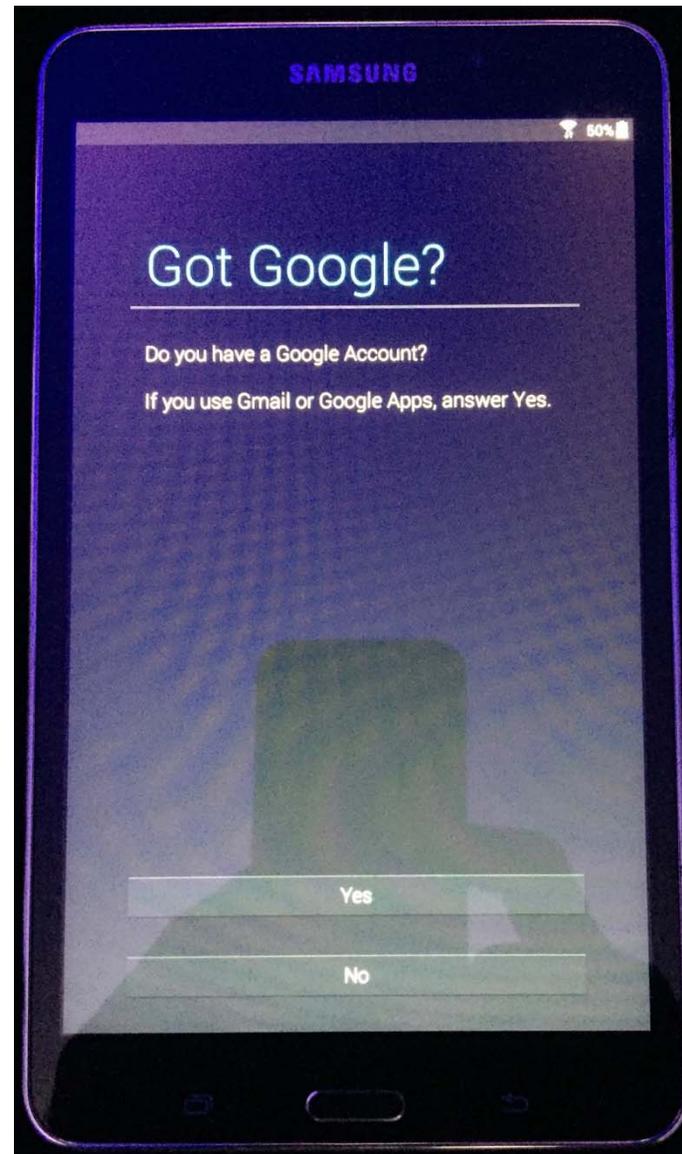
Garmin Virb Kit - Tablet



Check I understand and Yes then Next



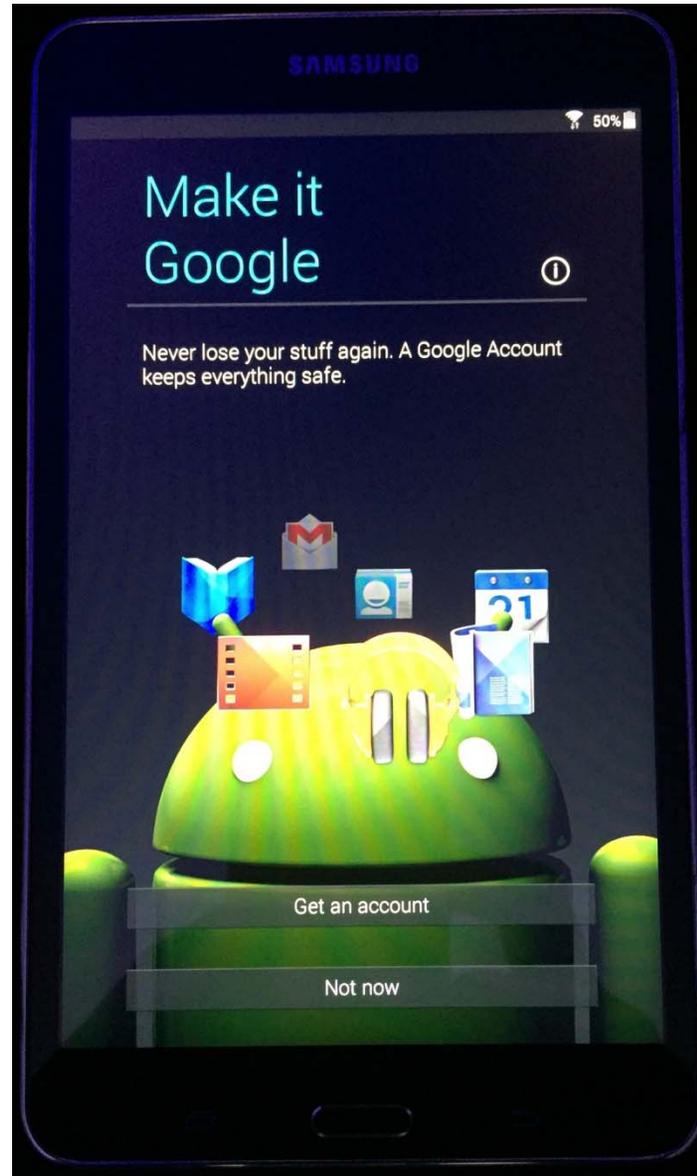
Garmin Virb Kit - Tablet



NO – must set up account for camera



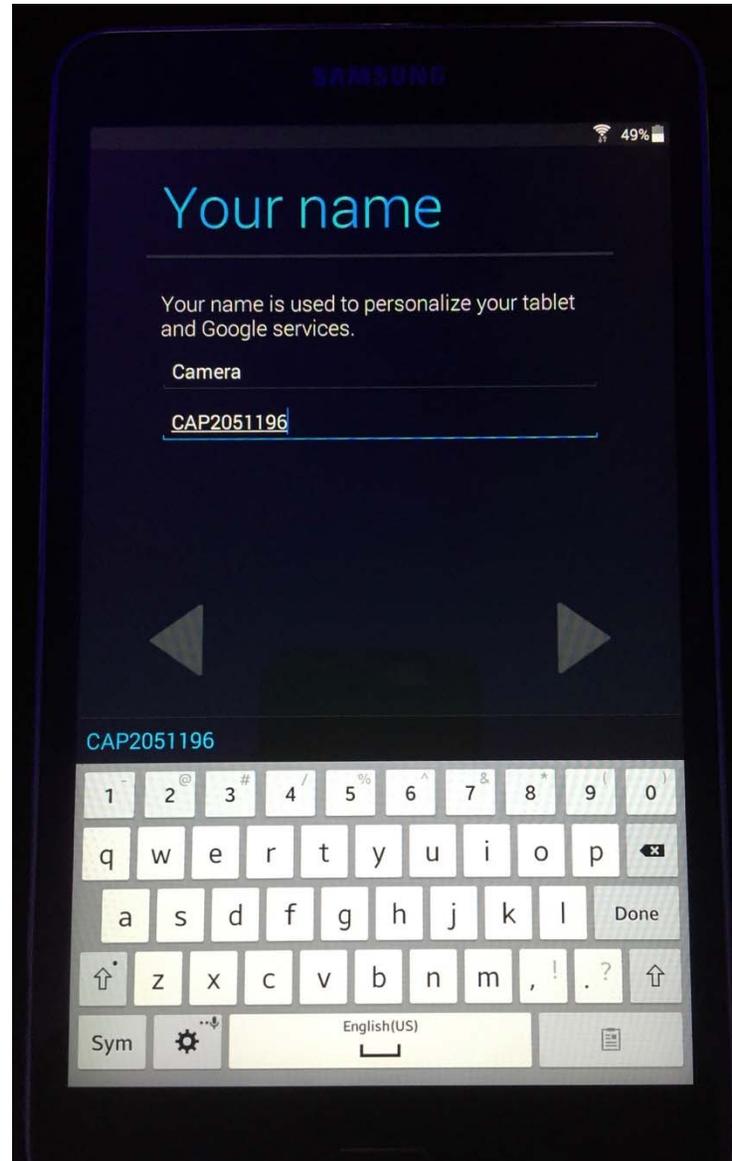
Garmin Virb Kit - Tablet



Get an account



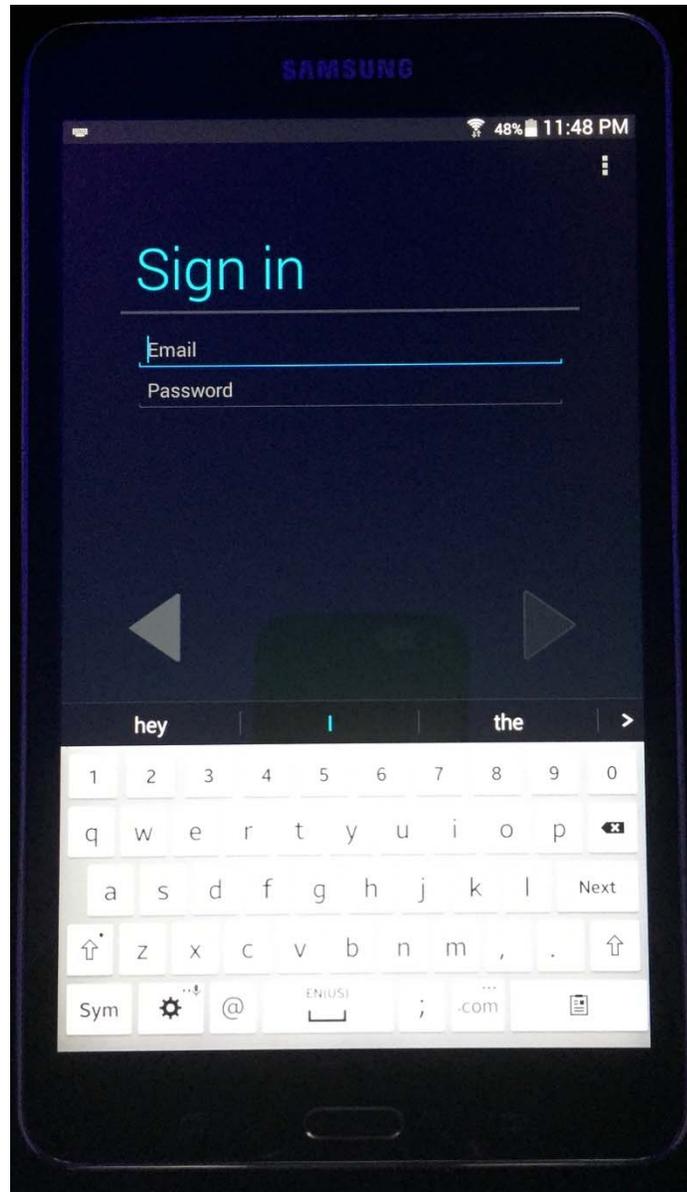
Garmin Virb Kit - Tablet



First name is Camera
Last name is ID tag as
shown
Eg CAP1234567



Garmin Virb Kit - Tablet



On a new tablet you will be shown a screen to create the email name with the @google.com already shown and the password will be set as shown on the next page

Email is CAP ID as shown plus @google.com

Eg capxxxxxx@google.com

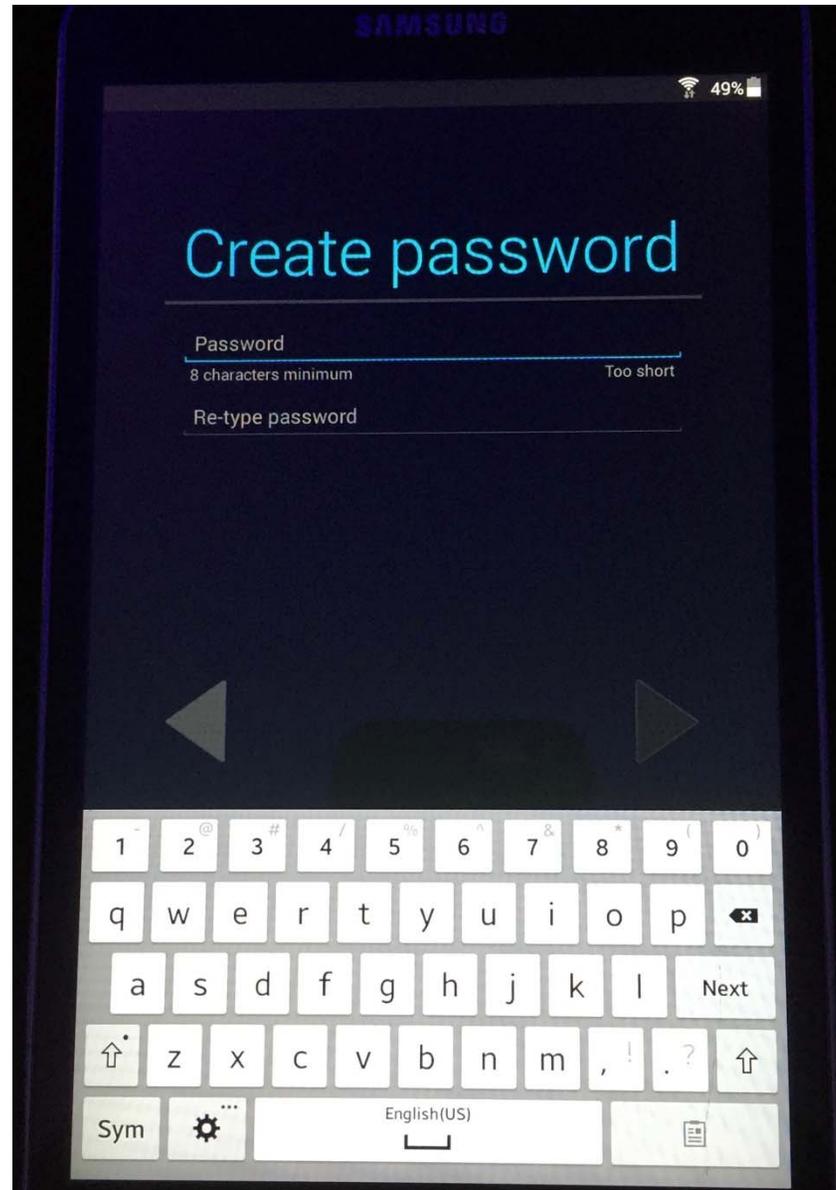
Password is

camera plus 7 digits of ID all lower case

Eg camera1234567



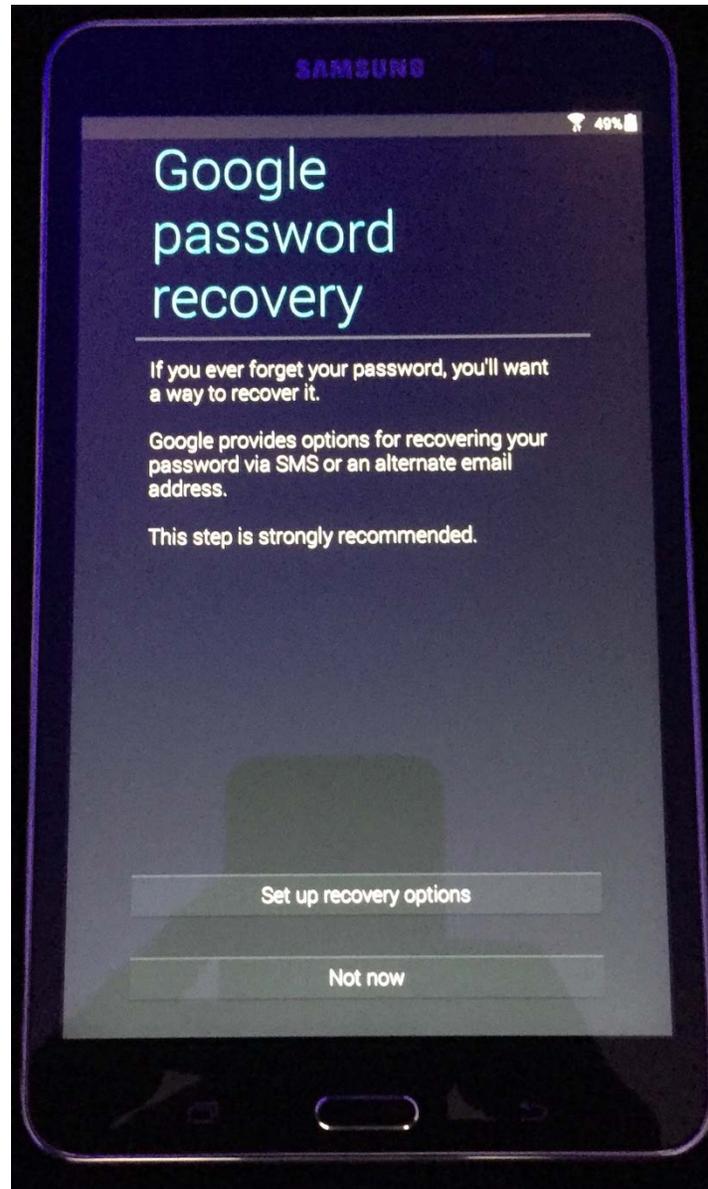
Garmin Virb Kit - Tablet



Password is
cameraxxxxxxx
x's are digits in
CAP ID
All lower case
Eg camera1234567



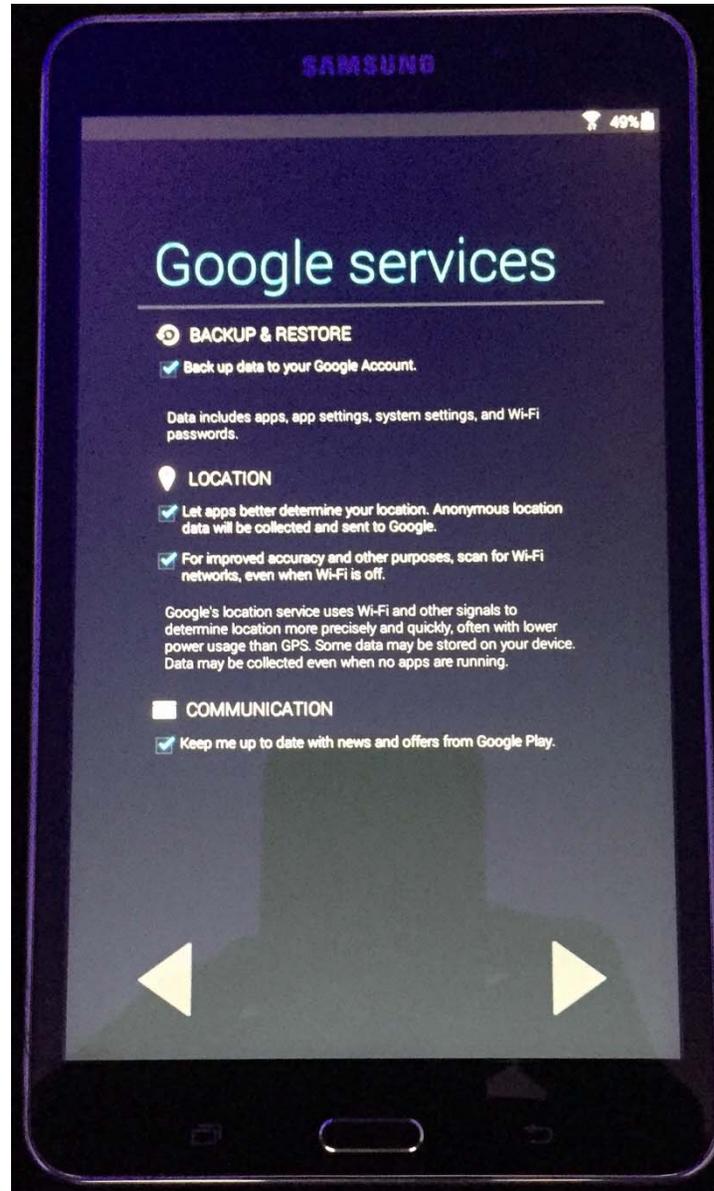
Garmin Virb Kit - Tablet



Not now
Skip this



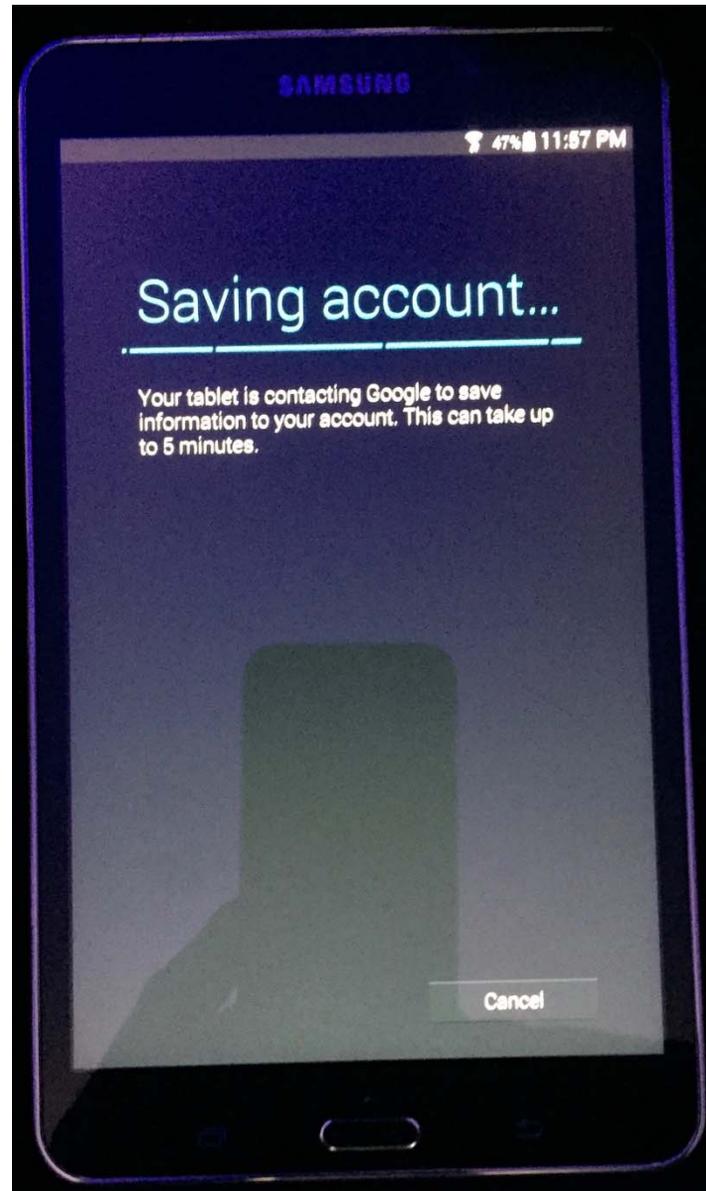
Garmin Virb Kit - Tablet



Use defaults and go to next

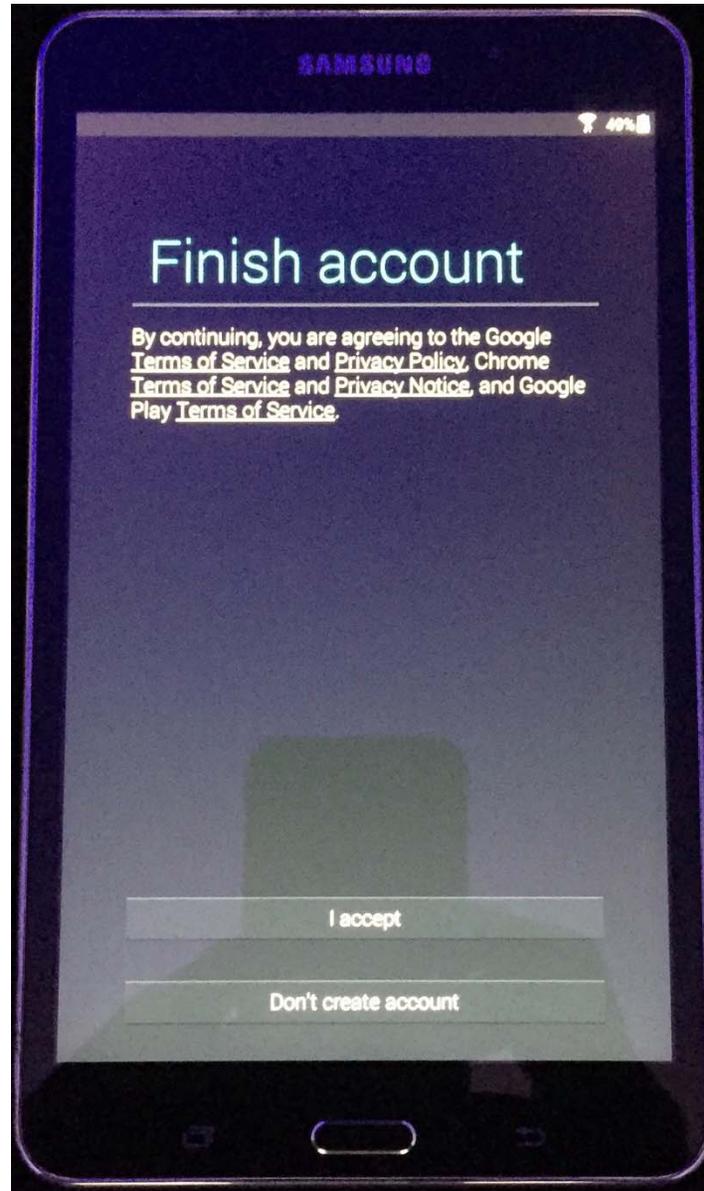


Garmin Virb Kit - Tablet





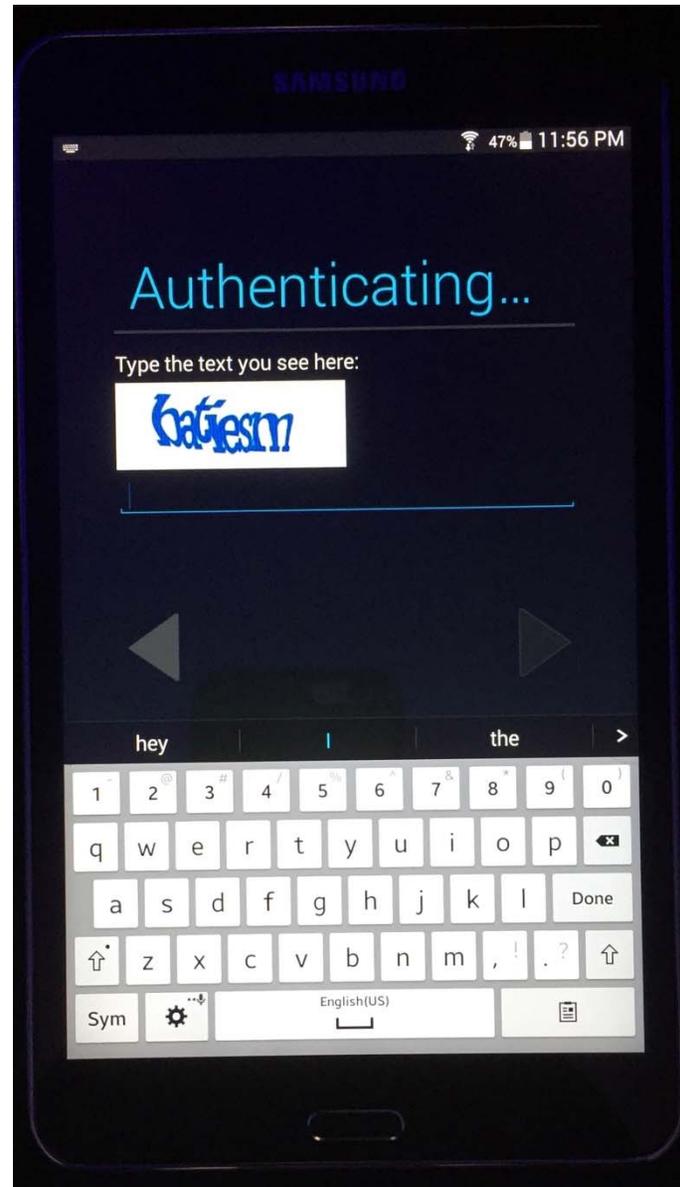
Garmin Virb Kit - Tablet



I accept

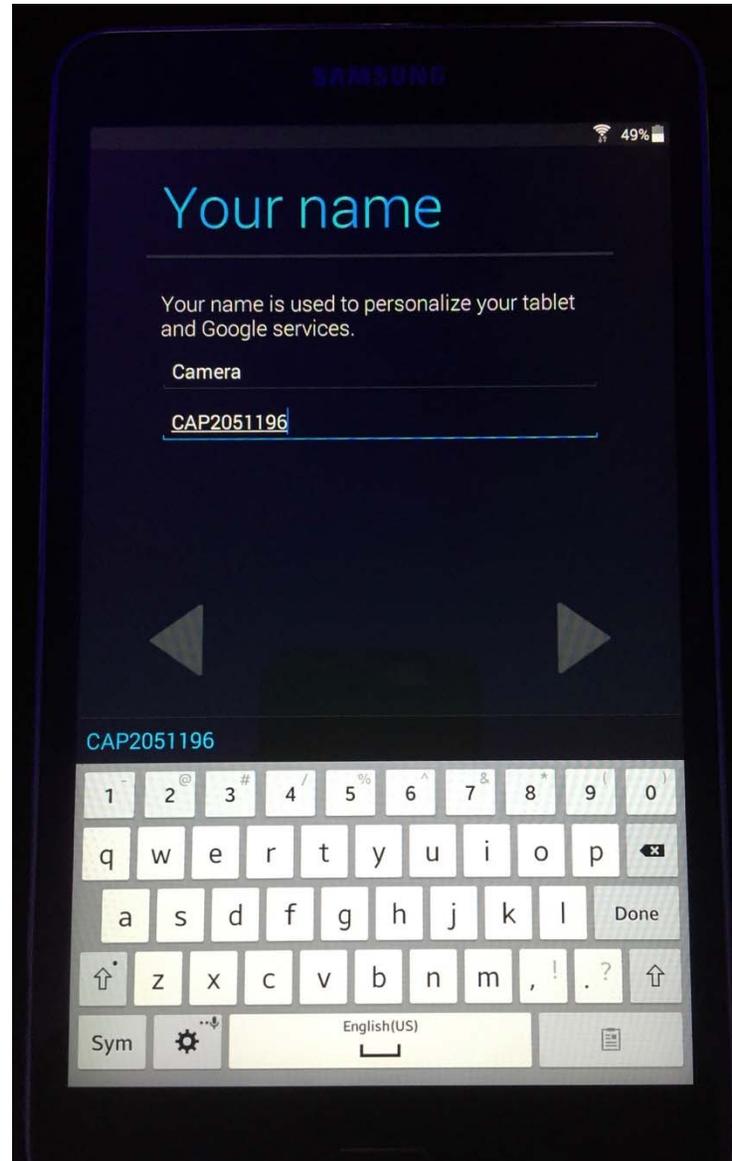


Garmin Virb Kit - Tablet





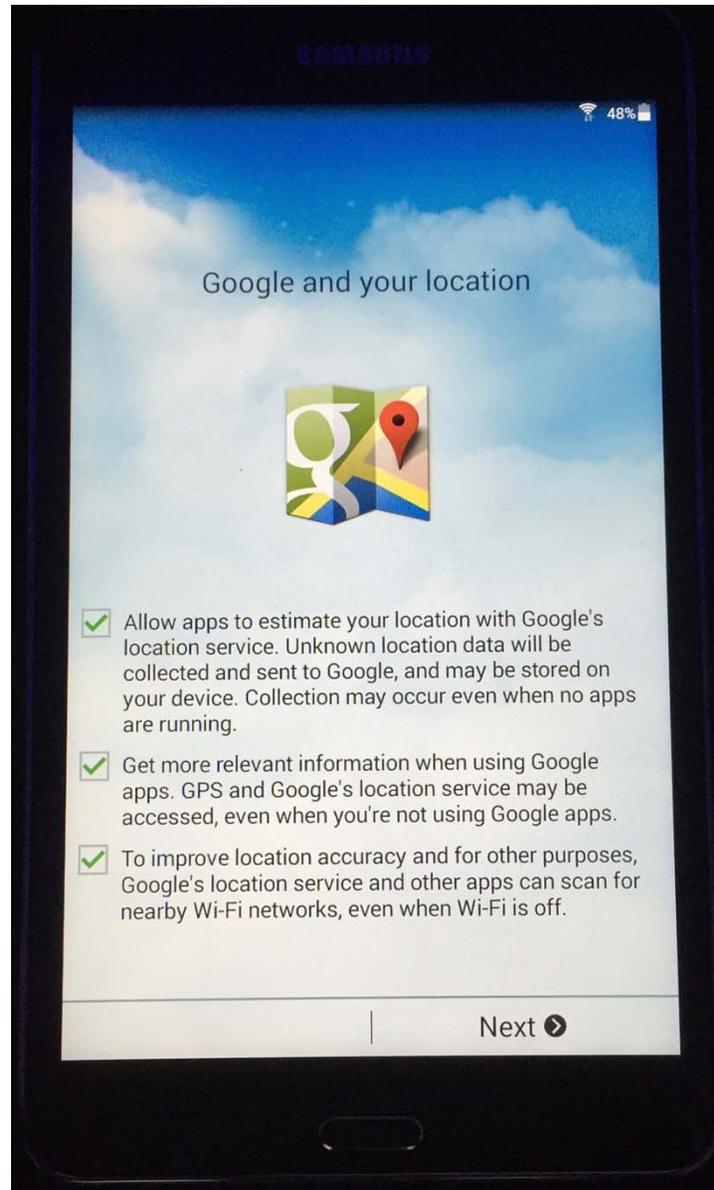
Garmin Virb Kit - Tablet



First name is Camera
Last name is ID tag as
shown
Eg CAP1234567



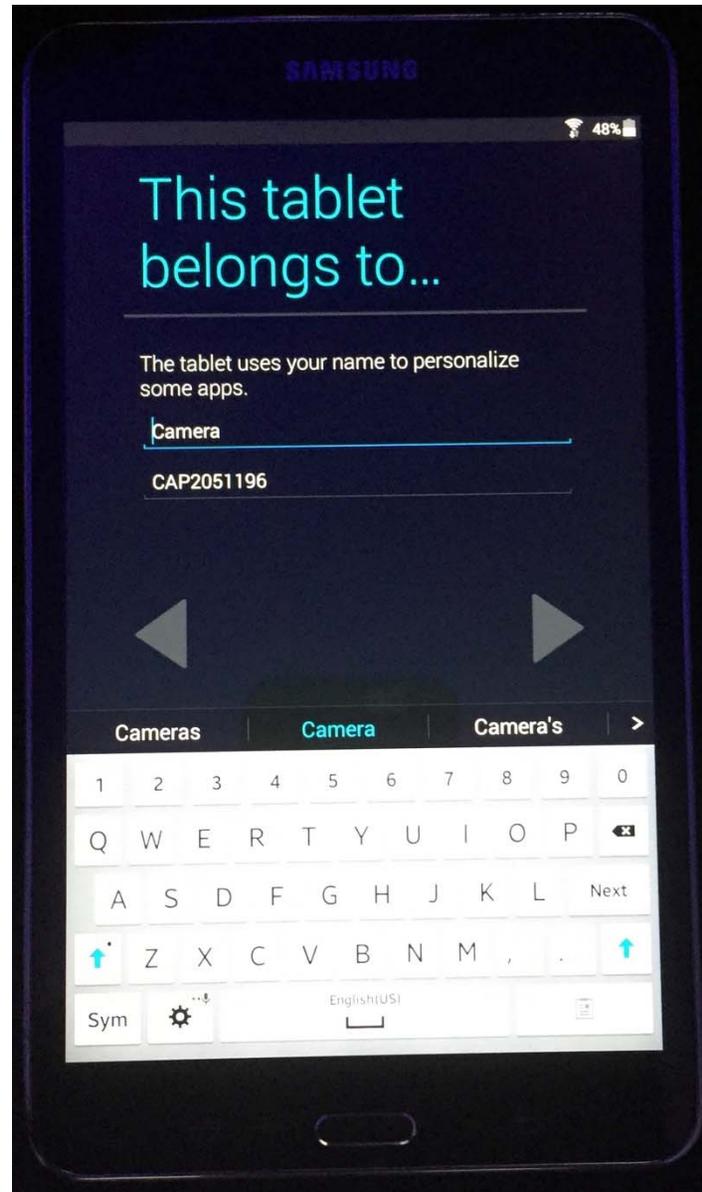
Garmin Virb Kit - Tablet



Next



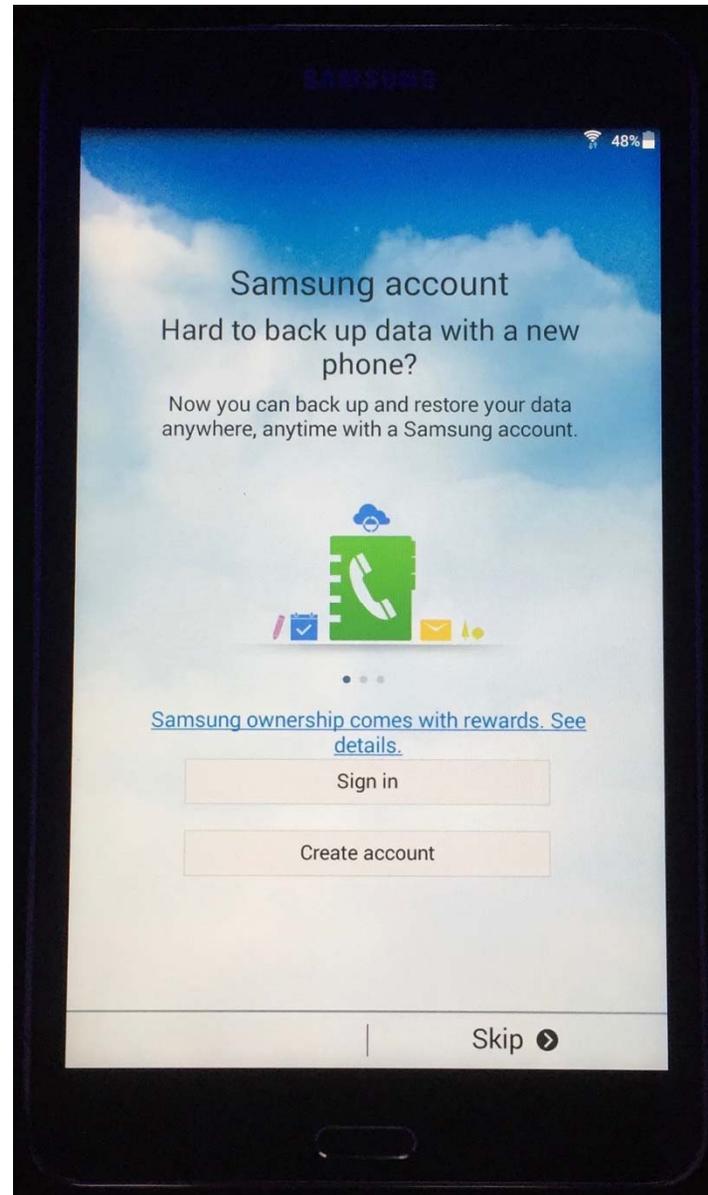
Garmin Virb Kit - Tablet



First name is Camera
Last name is ID tag as shown
Eg CAP1234567



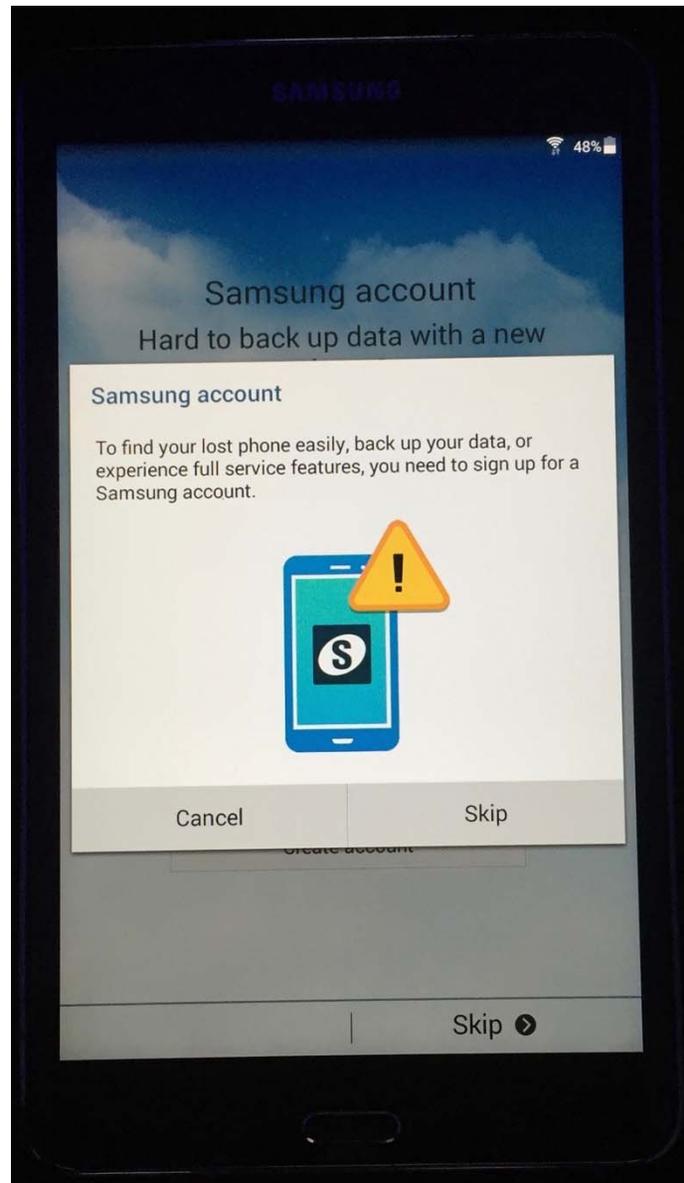
Garmin Virb Kit - Tablet



Skip

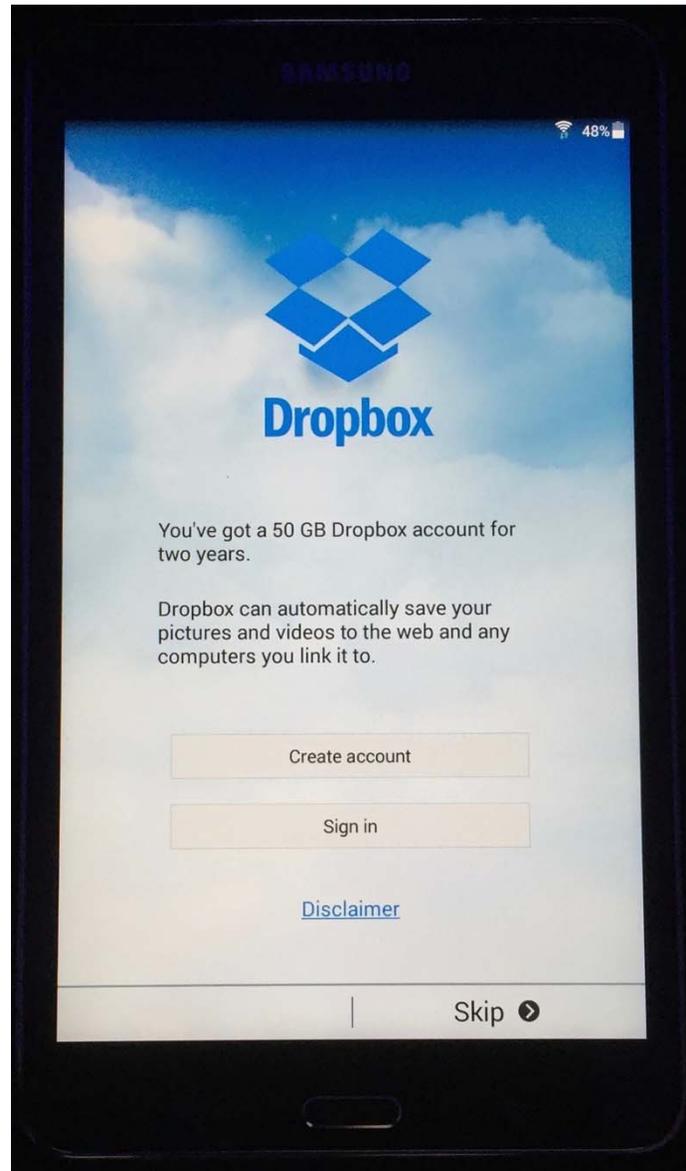


Garmin Virb Kit - Tablet





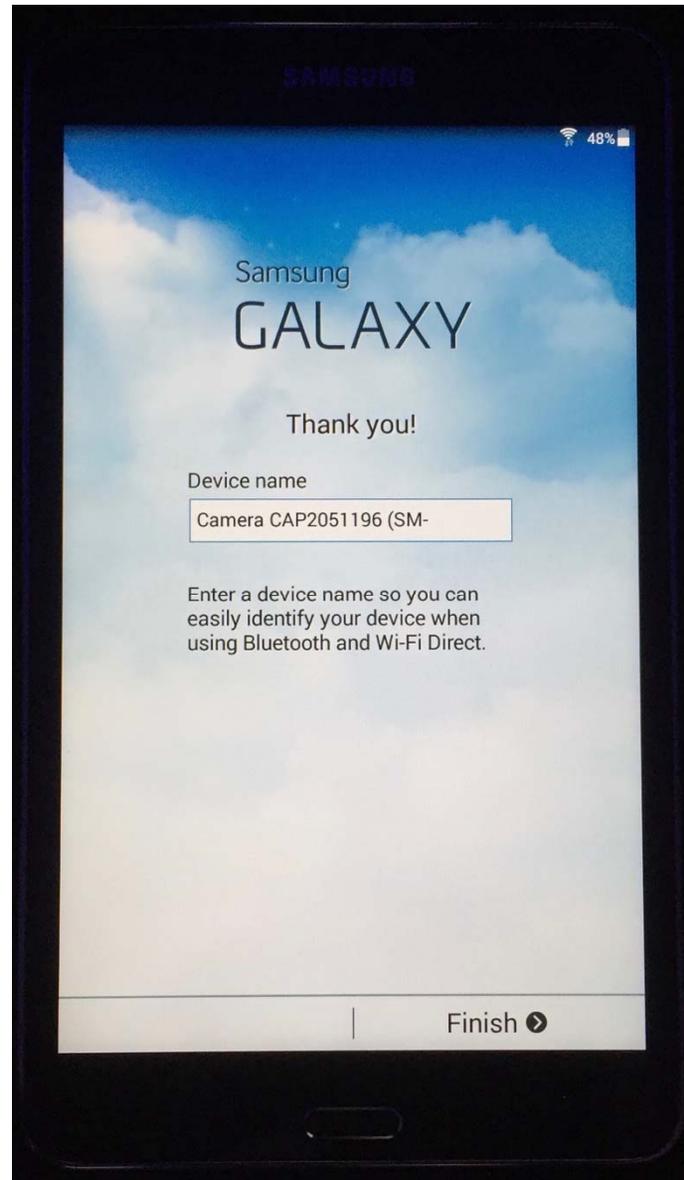
Garmin Virb Kit - Tablet



Skip



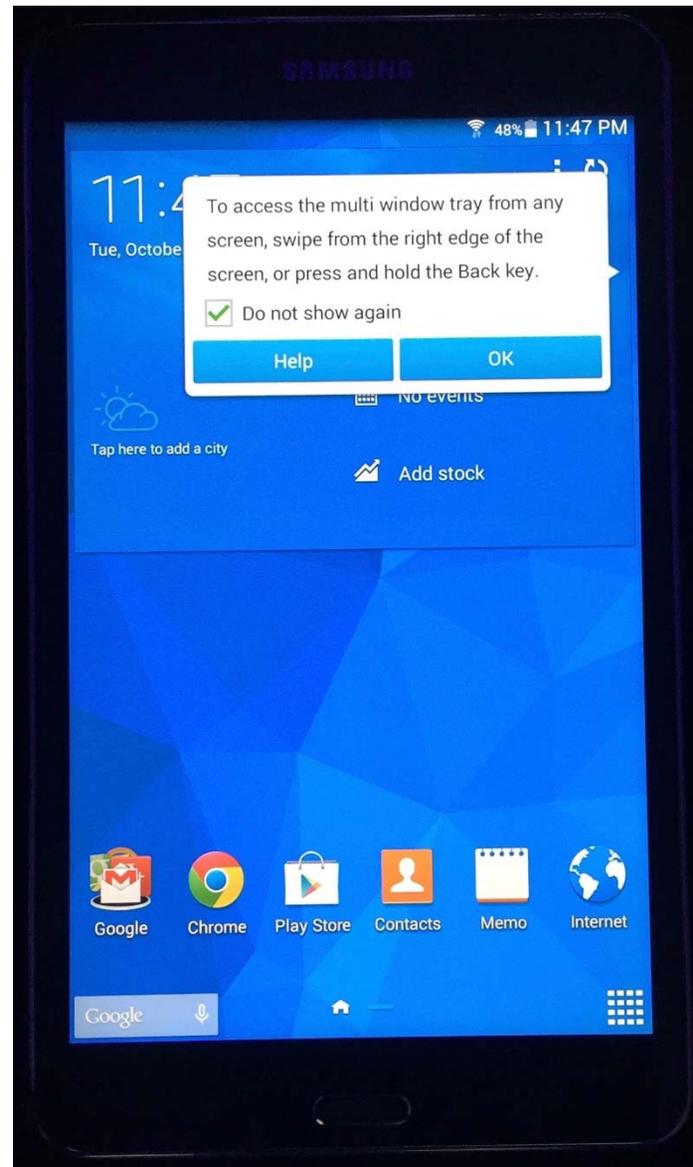
Garmin Virb Kit - Tablet



Remove the space(SM-
and then Finish



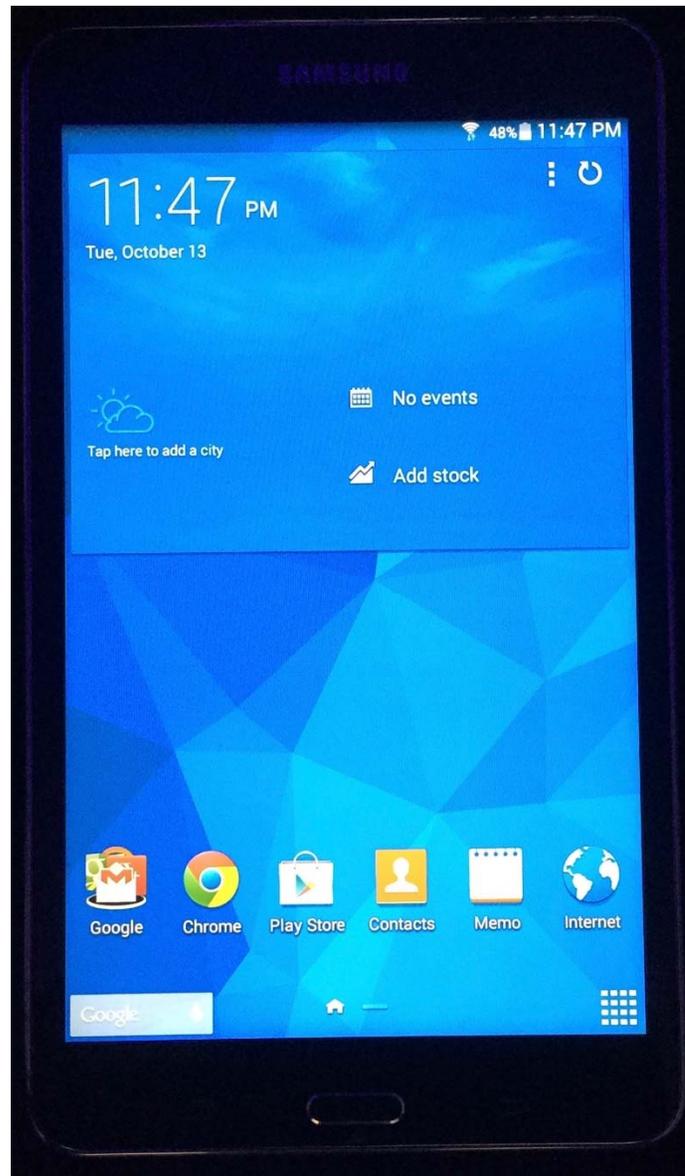
Garmin Virb Kit - Tablet



OK



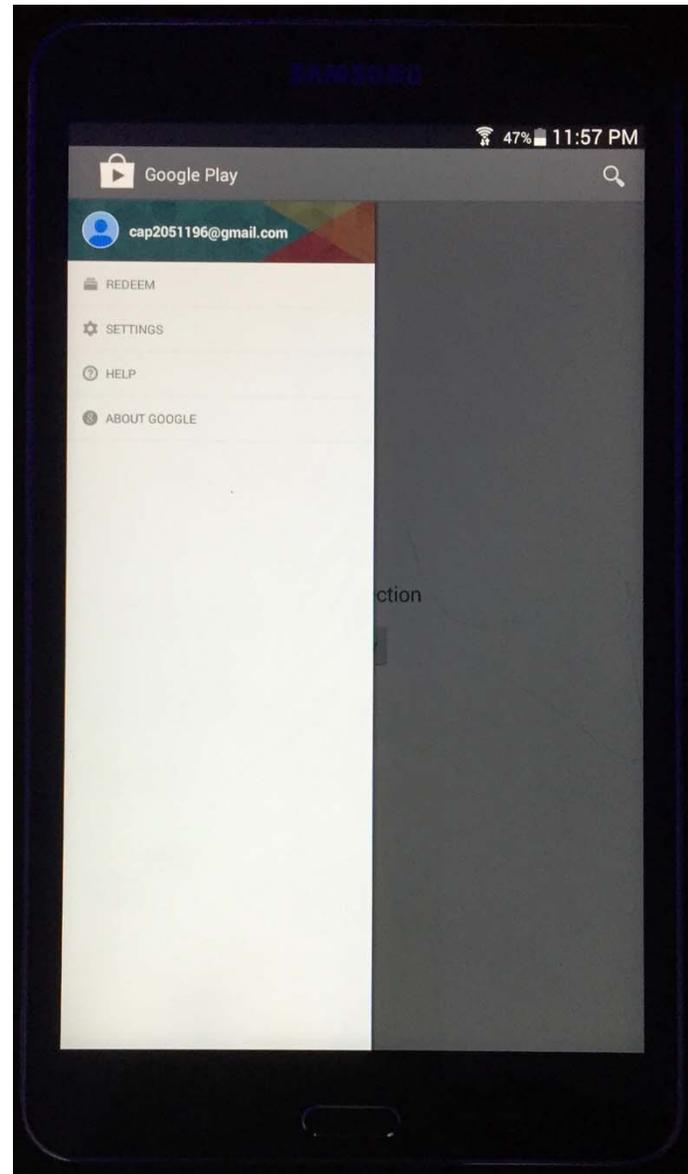
Garmin Virb Kit - Tablet



Main screen
Virb icon will appear here
Tap to start app



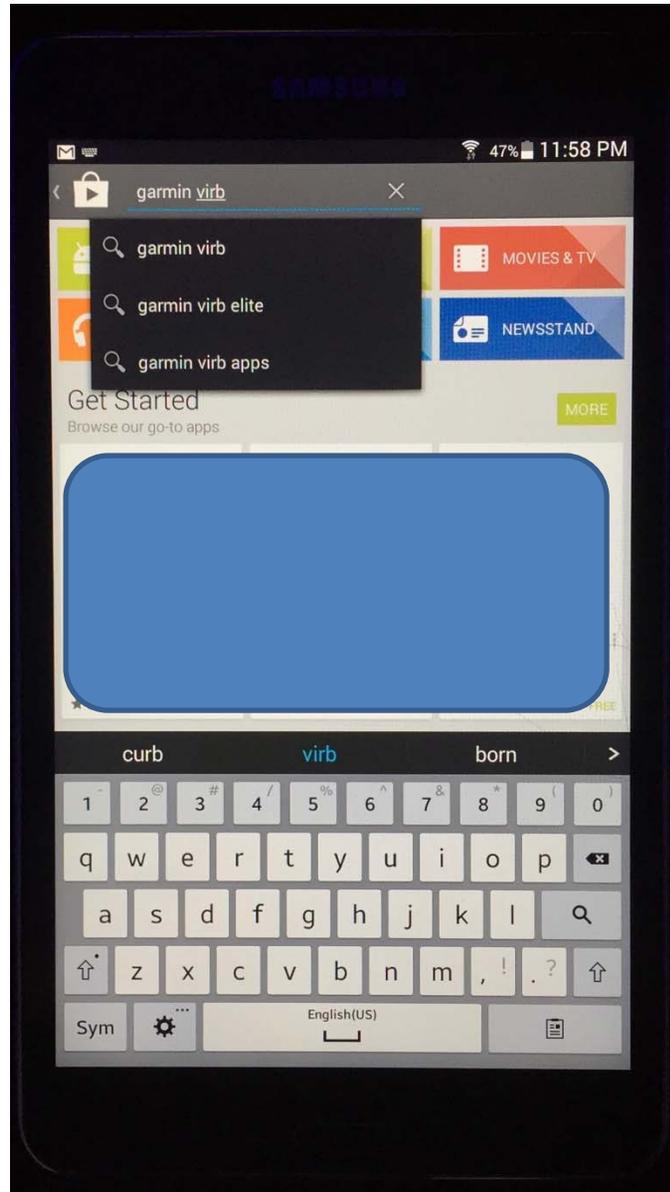
Garmin Virb Kit - Tablet



Ready to download
from Google play



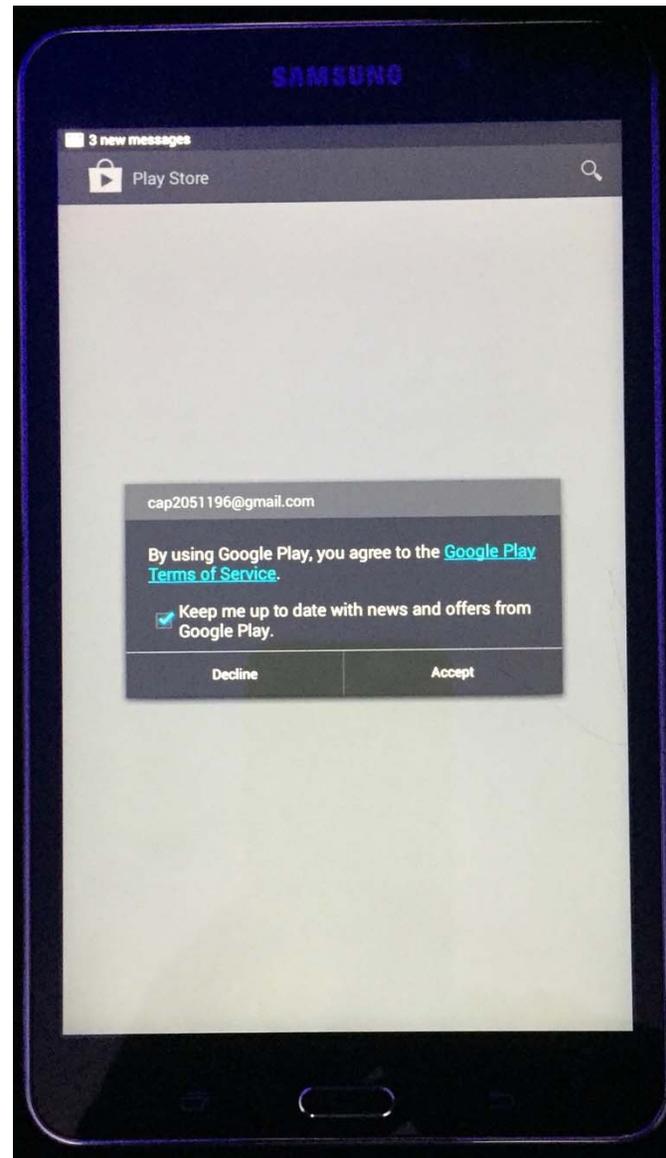
Garmin Virb Kit - Tablet



Click on the magnifying glass and Search for Garmin Virb



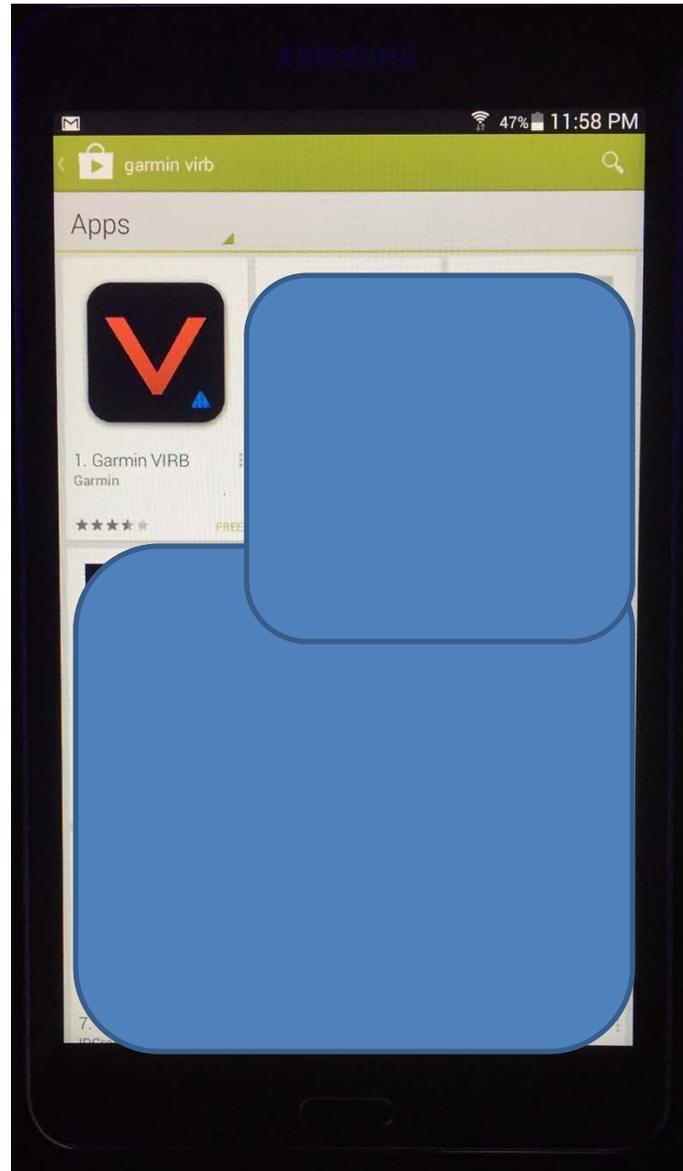
Garmin Virb Kit - Tablet



Accept



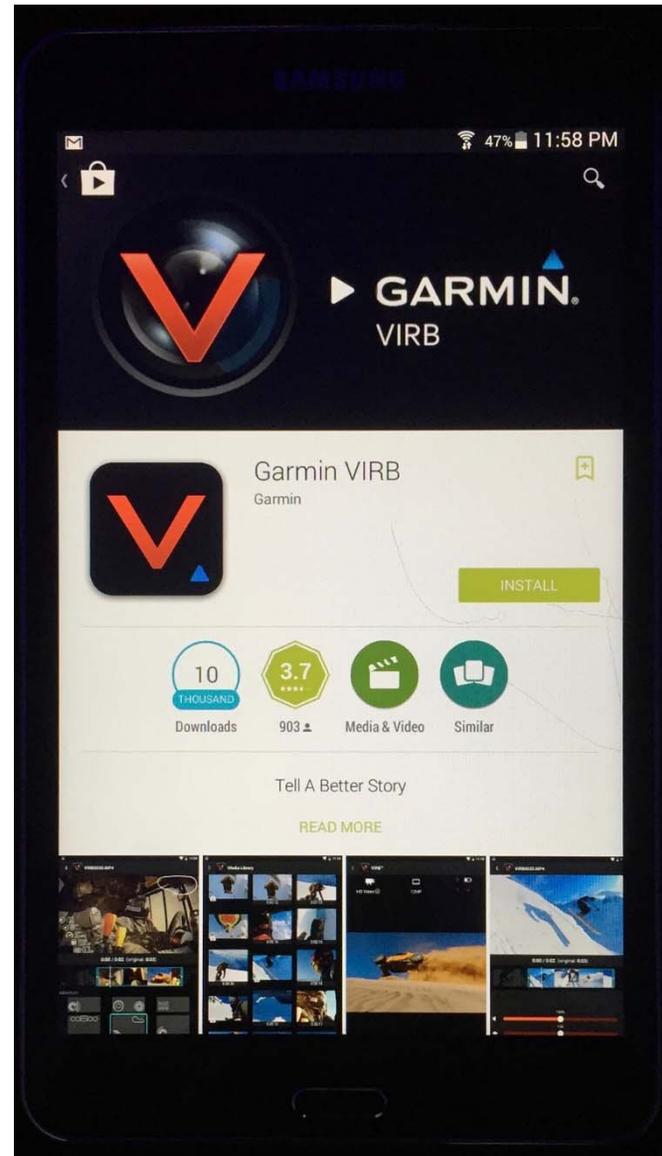
Garmin Virb Kit - Tablet



Click the V icon



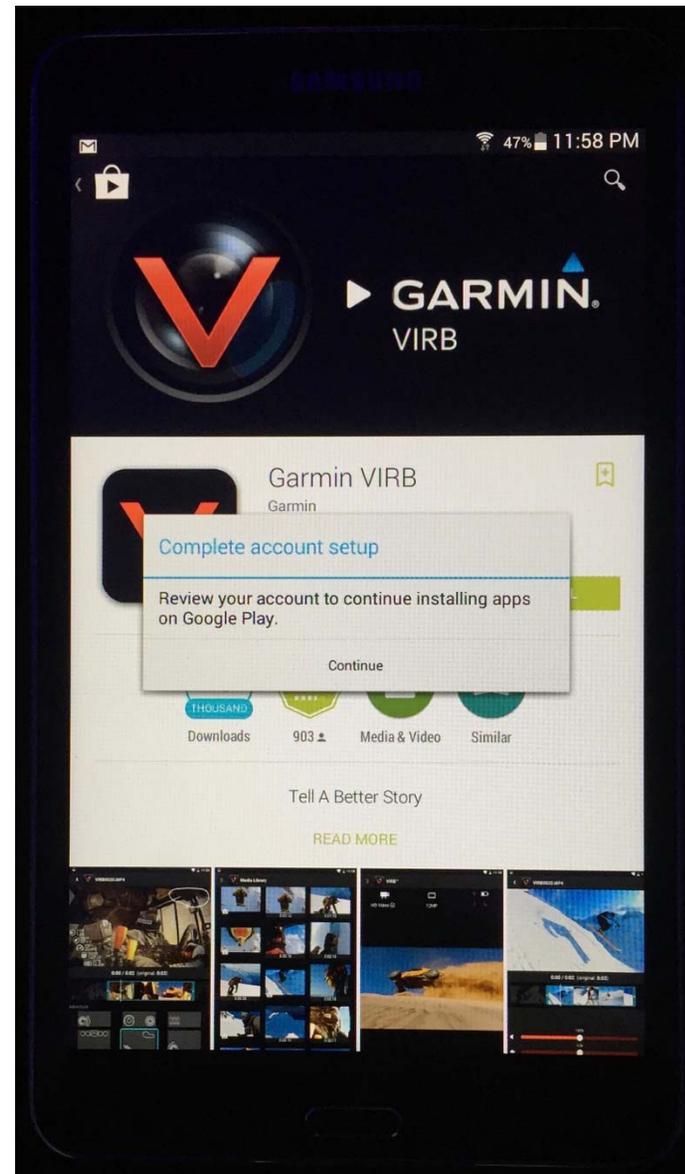
Garmin Virb Kit - Tablet



Install



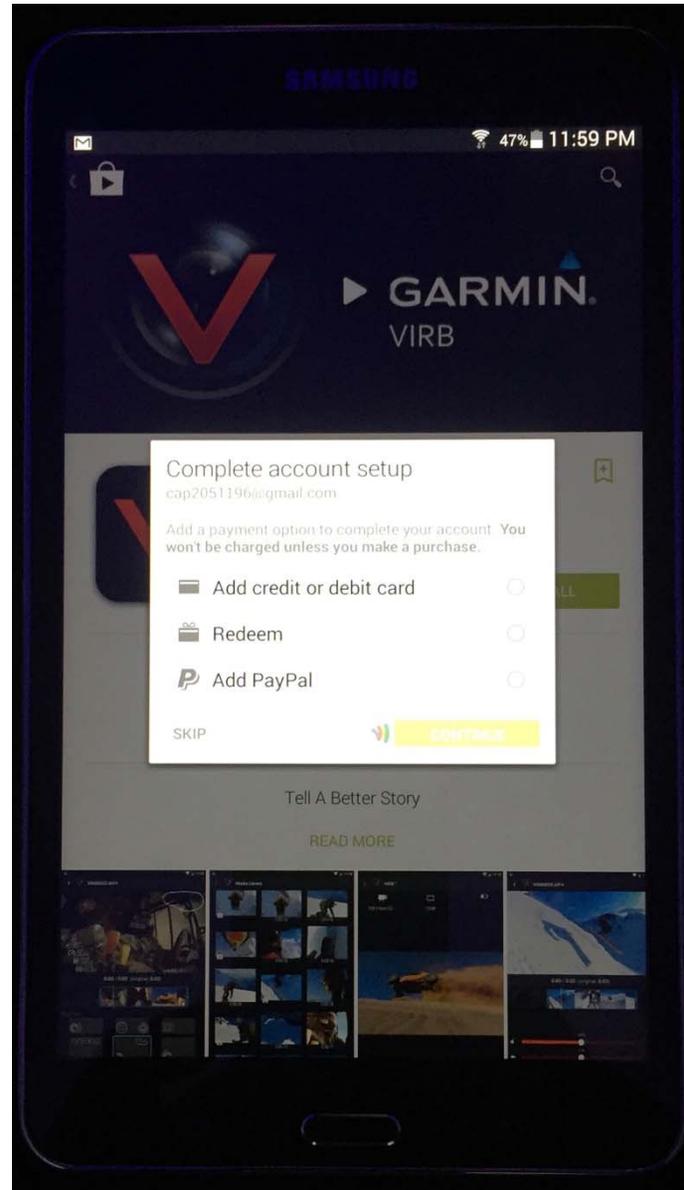
Garmin Virb Kit - Tablet



Continue and then
Open the app



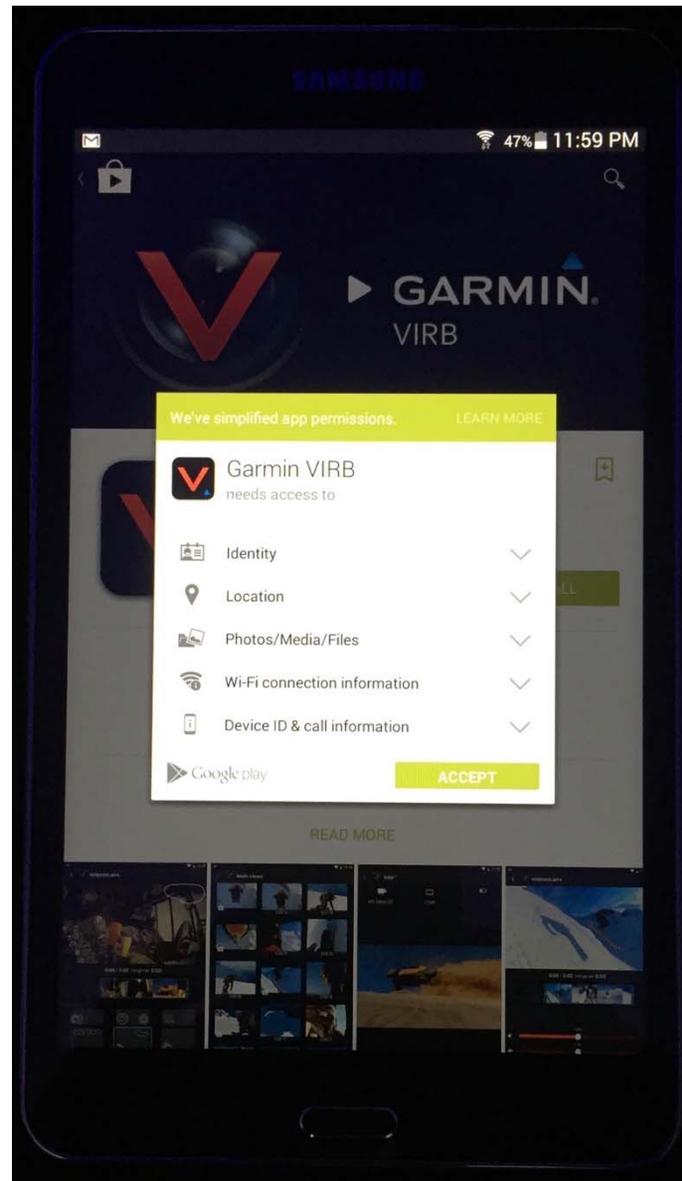
Garmin Virb Kit - Tablet



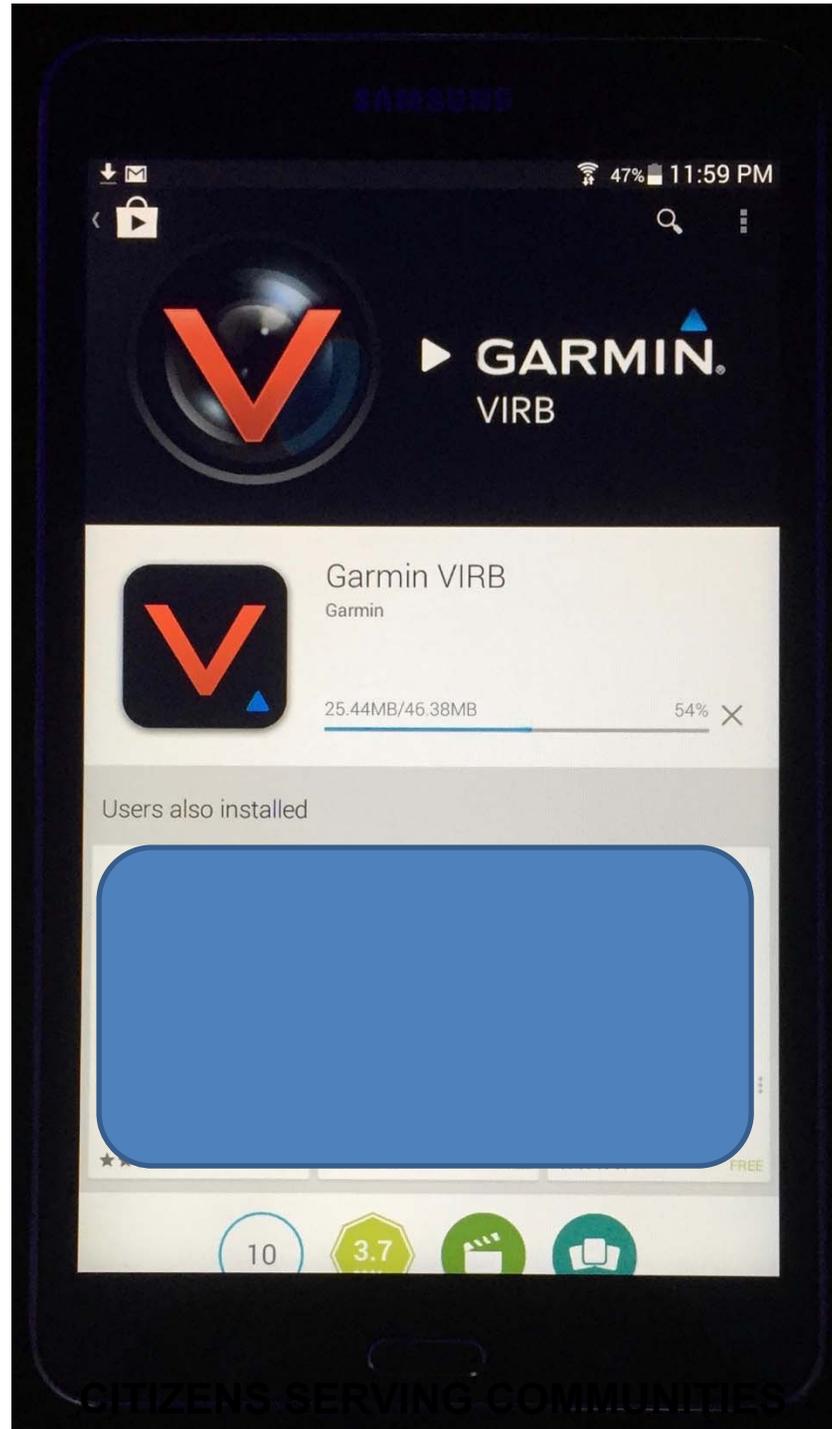
Skip



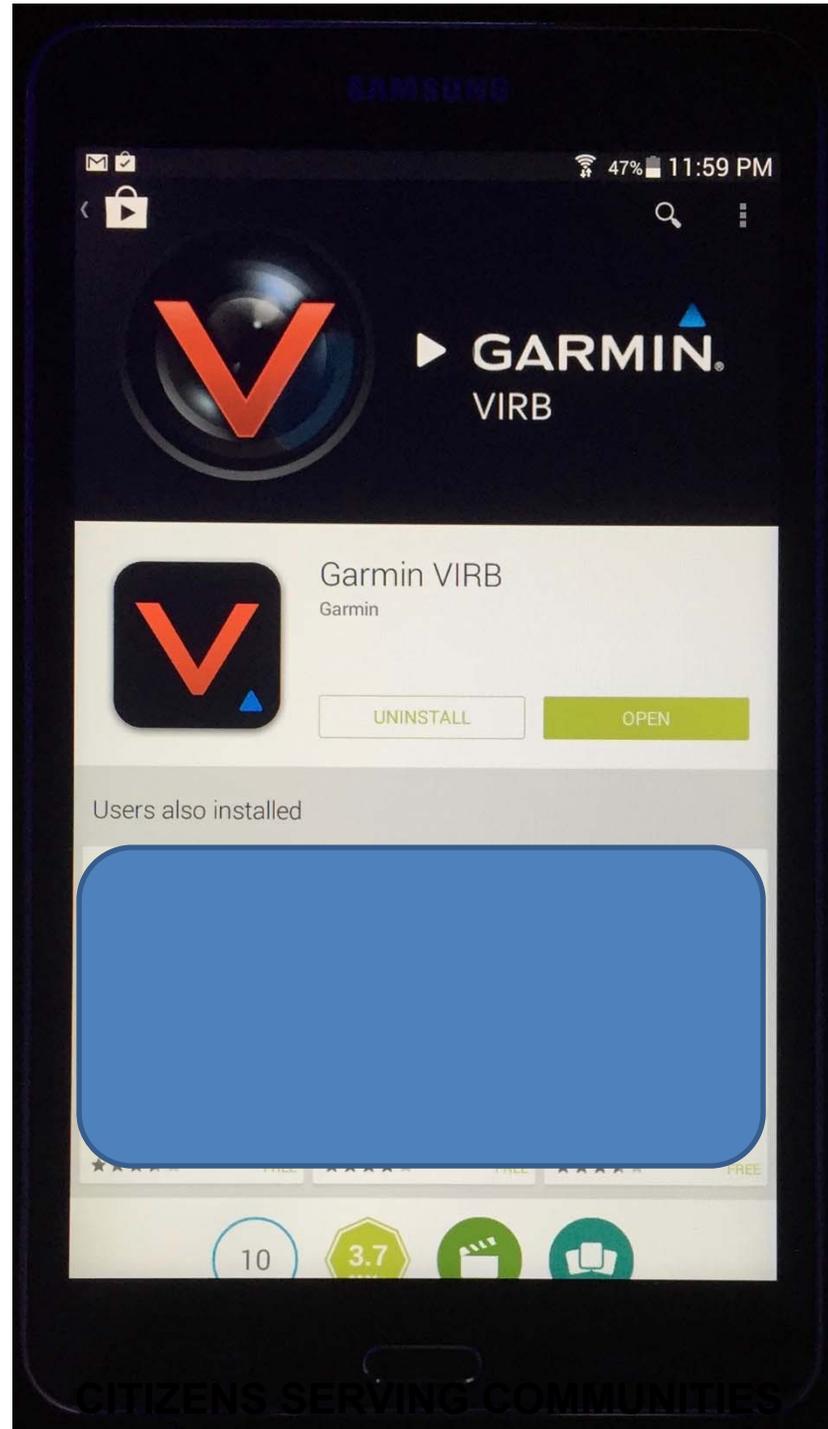
Garmin Virb Kit - Tablet



Accept



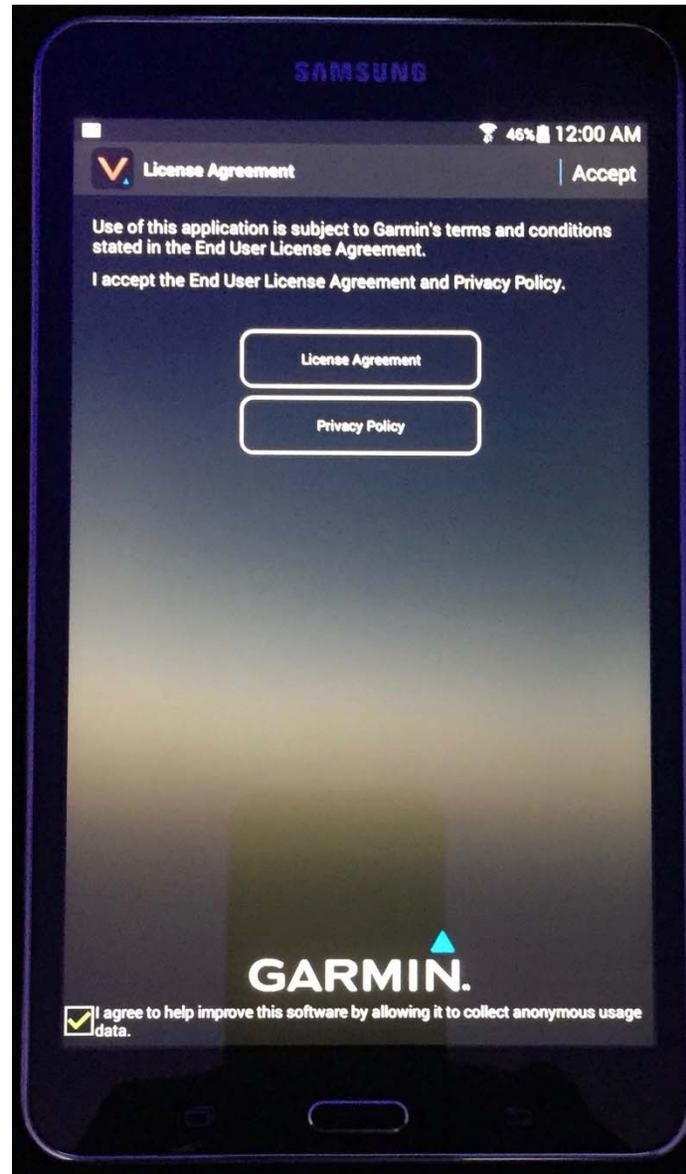
Wait for next screen



Open



Garmin Virb Kit - Tablet



Accept



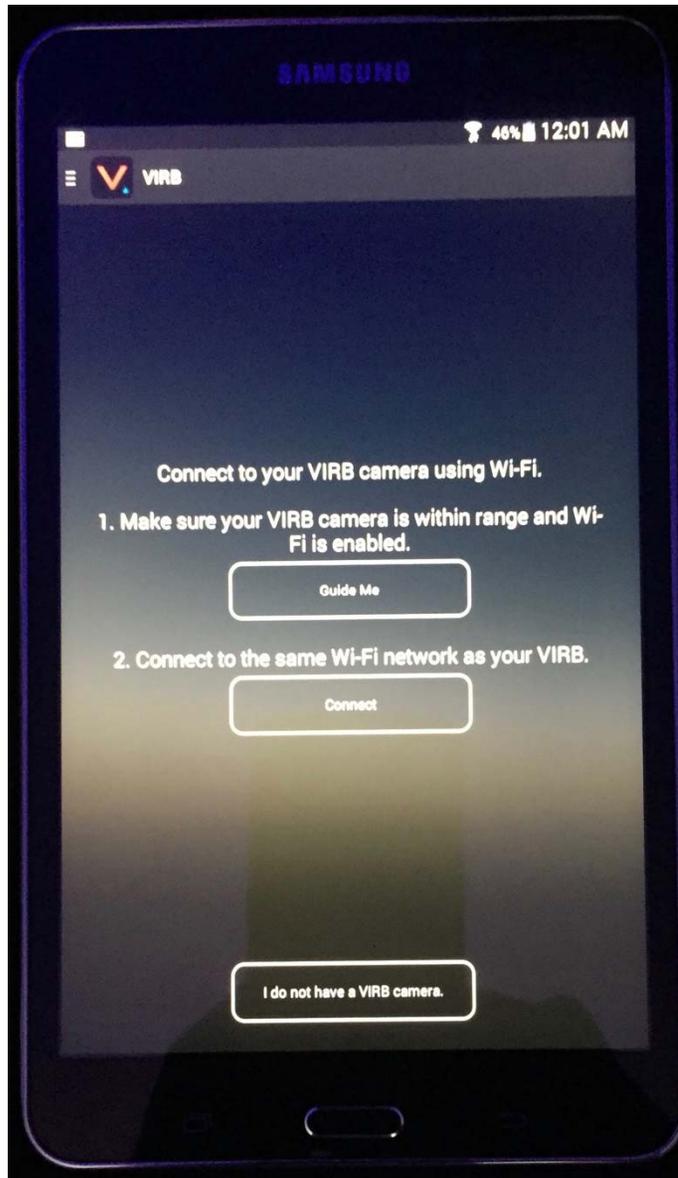
Garmin Virb Kit - Tablet



May have to skip a prior screen and then Get Started



Garmin Virb Kit - Tablet

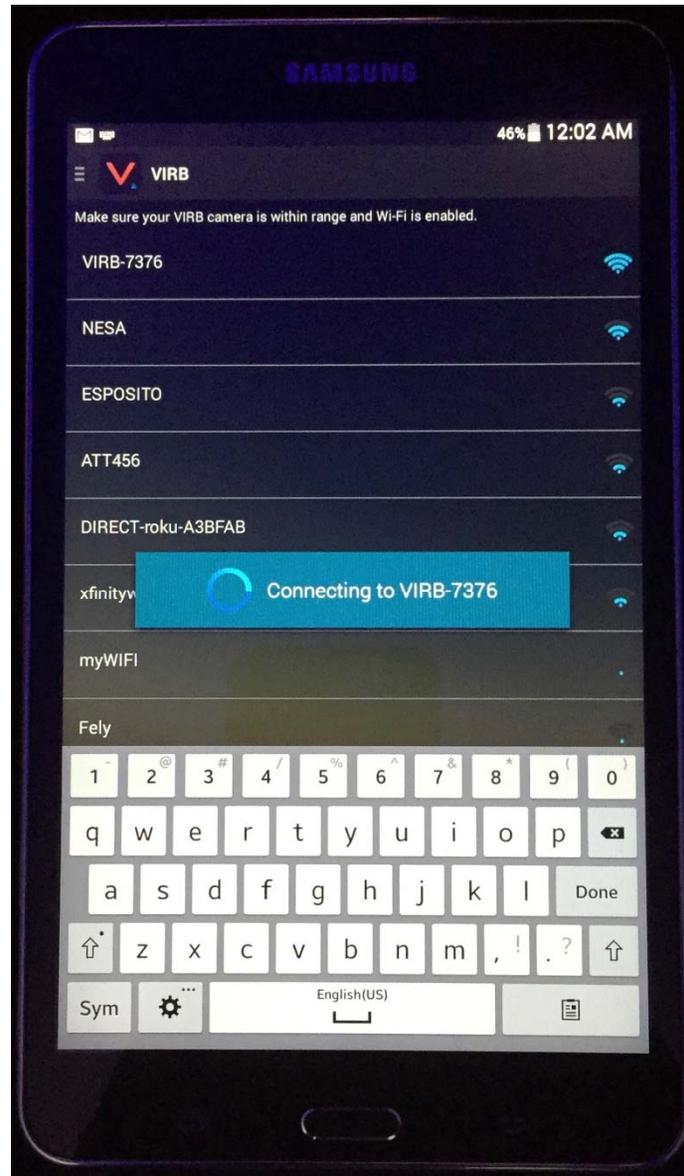


Virb must be on and WiFi turned on
An identity will show up and the password is garminvirb (all lower case)

Turn on Virb with power button
Yes (OK) to use satellite time and date
Use Menu to get to Setup
Use up down arrows to get to WiFi
Press OK to turn on/off
Note in order to ever get back to setup screen other than WiFi, WiFi must be turned off
Virb settings other than WiFi can be done via the tablet

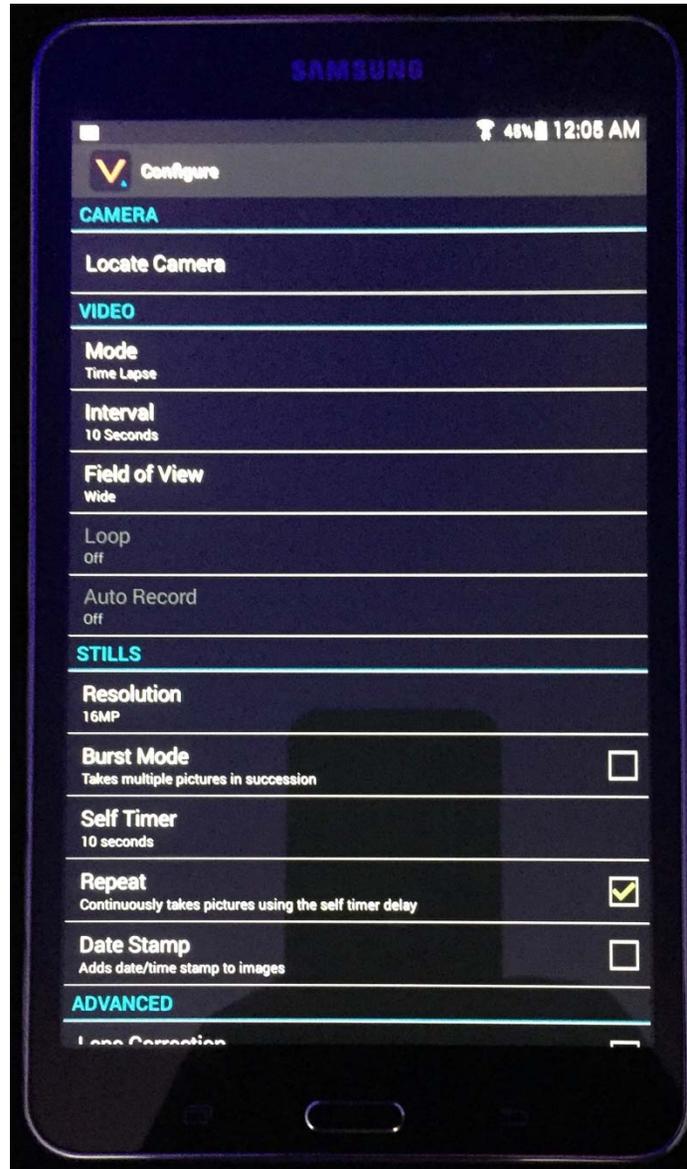


Garmin Virb Kit - Tablet





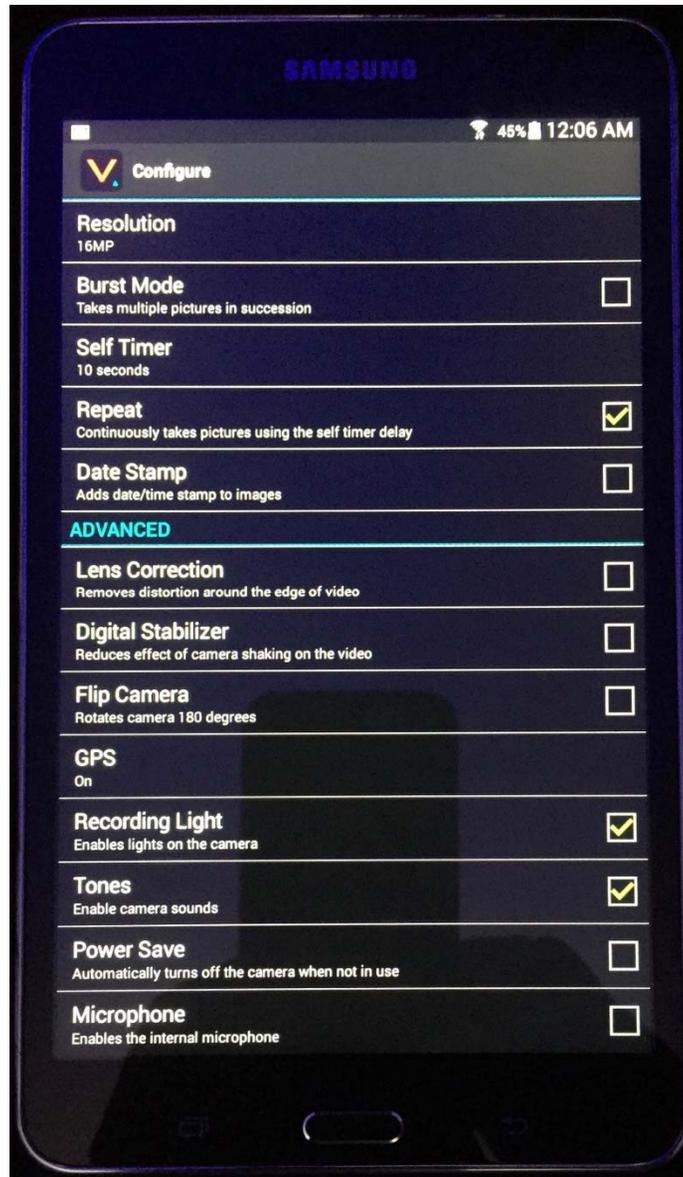
Garmin Virb Kit - Tablet



Click on the wrench symbol
to get to the setup screen
shown
Video settings are not used
See next page



Garmin Virb Kit - Tablet

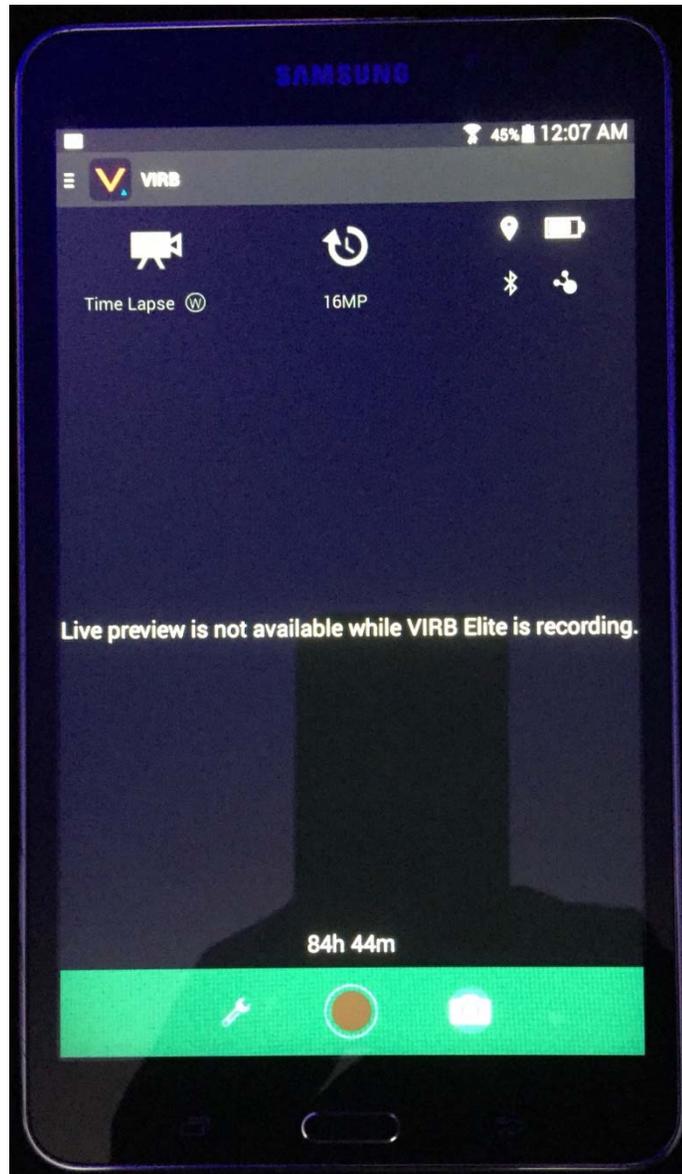


Stills settings as shown
Tap item to change if no check box

- Resolution 16 MP
- Burst mode Off, not checked
- Self timer 10 seconds
- Repeat checked
- Date stamp not checked
- Lens correction **checked**
see change notice
- Digital stabilizer not checked
- Flip camera not checked
- GPS On
- Recording light checked
- Tones checked
- Power save not checked
- Microphone not checked



Garmin Virb Kit - Tablet



Wrench symbol is for settings

Red button is to start video

Press to start, press to stop

We do NOT do video unless briefed

Right button is to take a photo are start the repetitive photos at interval set

Press to start, press to stop

What the camera sees will only been seen on the tablet when it is not doing video or photos.

Do not stop photo taking on turns

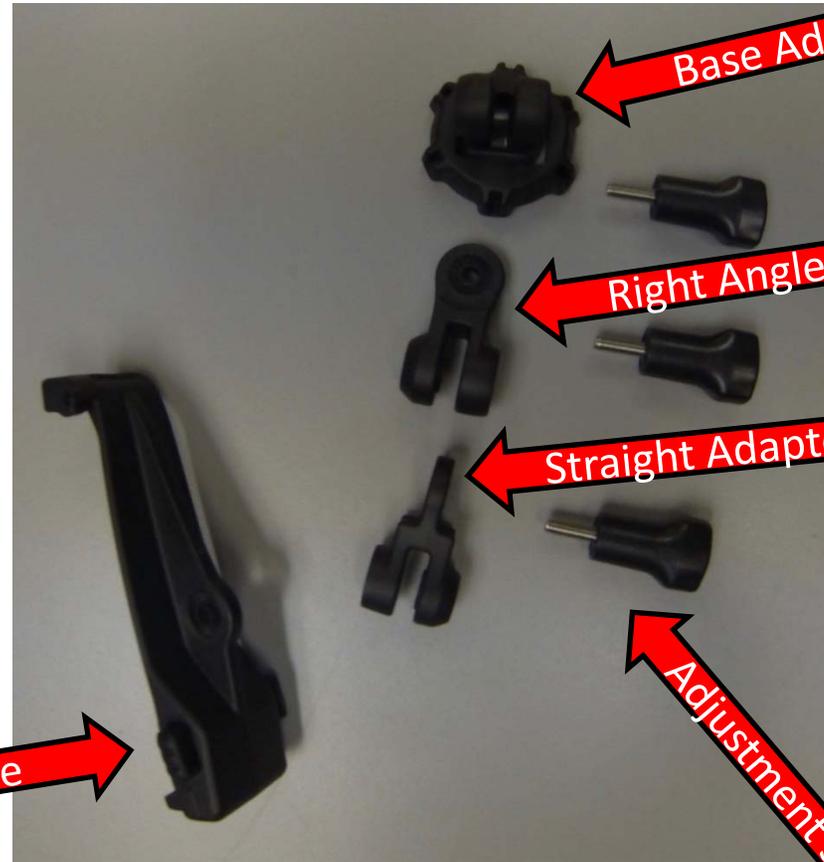
Do not take images to/from target area



Garmin Virb Kit – Assembling the Mount



End state



Parts needed

Camera Cradle

Base Adapter

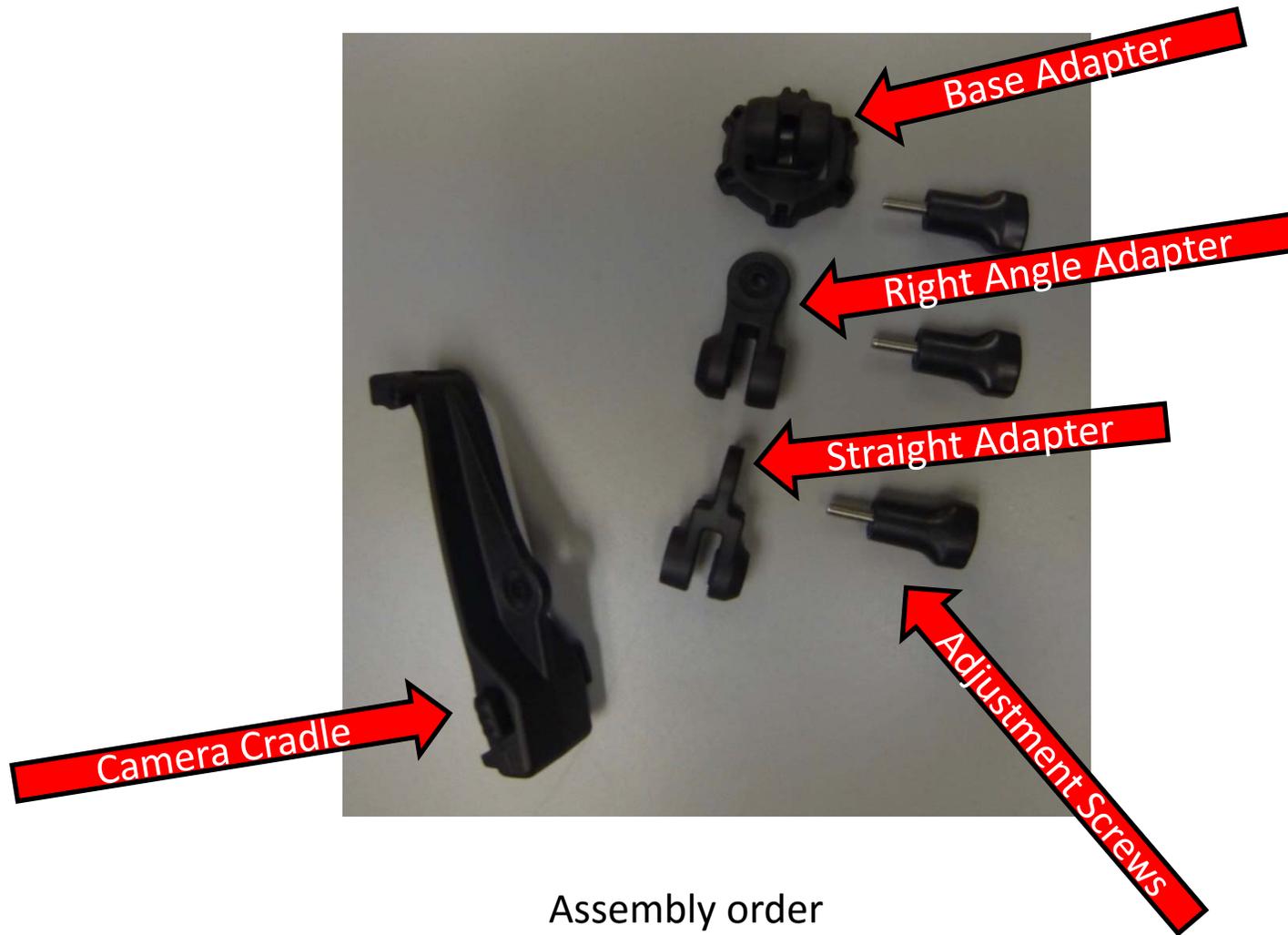
Right Angle Adapter

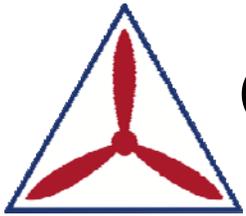
Straight Adapter

Adjustment Screws

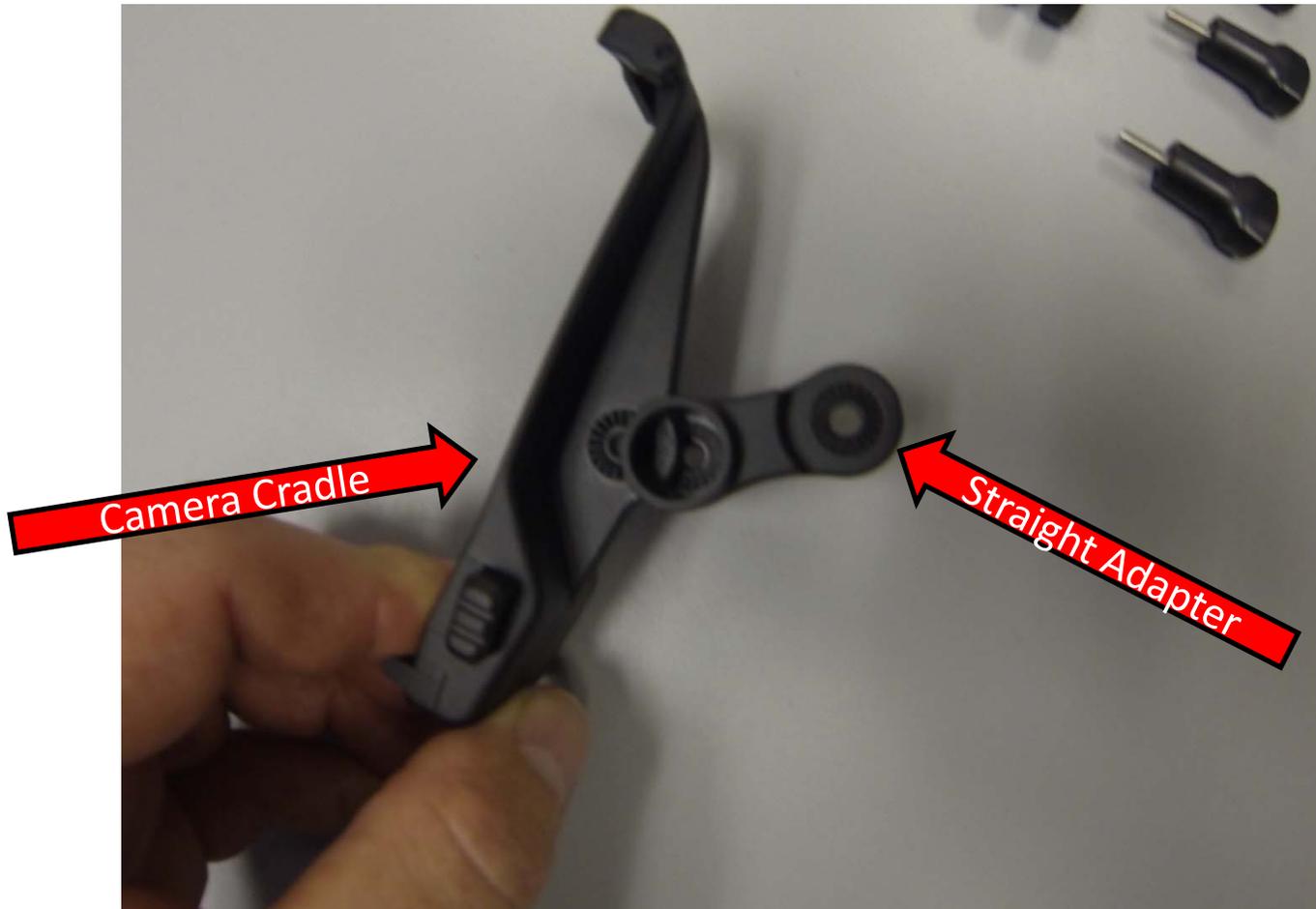


Garmin Virb Kit – Assembling the Mount





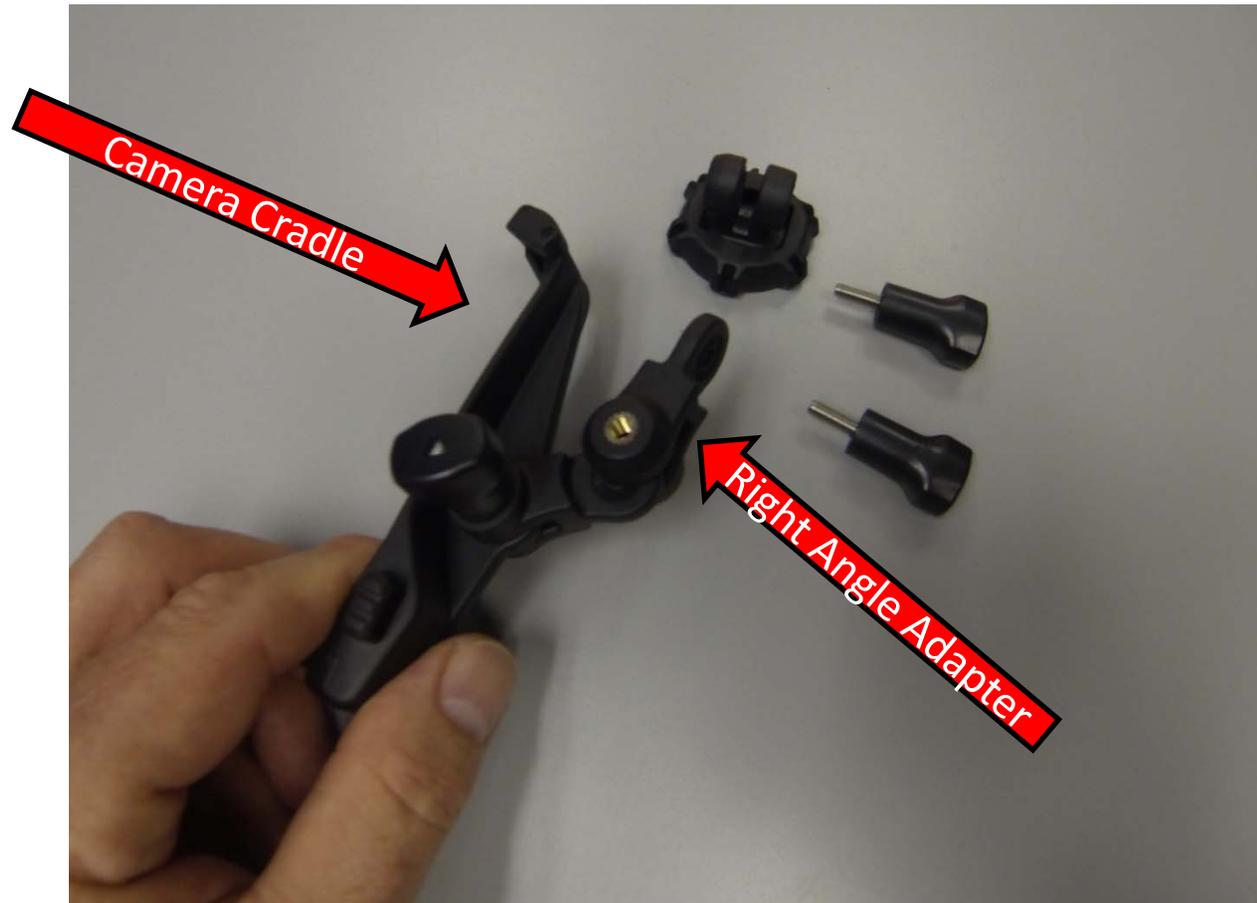
Garmin Virb Kit – Assembling the Mount



Note orientation of the large hole in adapter which is the side to insert the screw from



Garmin Virb Kit – Assembling the Mount



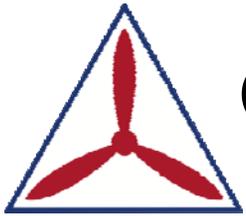
Note screw orientation for right angle adapter



Garmin Virb Kit – Assembling the Mount



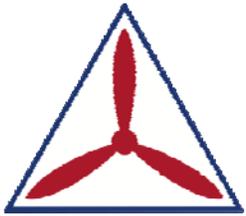
Mounting base with screw away from cradle



Garmin Virb Kit – Assembling the Mount



Note orientation of screws so you can get at them



Garmin Virb Kit – Adhering to the wing

External Camera Mounts

- Ambient temperature 70-100F and allow to cure for 24 hours.
- Clean area of all bugs, wax, oxidation etc.
- Clean with soap and water, dry completely
- Clean with alcohol, dry completely
- Adhere pad, applying pressure to center of pad and around all sides.
- **Use only the mounts with the flat pad**



Garmin Virb Kit – Adhering to the wing



The mounting area must be free of oxidized paint, bugs, etc and be smooth solid paint

Use alcohol to remove any and all films prior to mounting the base pad

Installation needs to be done when temperature is 70-100 F and it must sit at least 24 hours before attaching camera. Surface must be totally dry before attaching.

See required airframe log book entry on later slide



Garmin Virb Kit – Adhering to the wing



Mount as far forward as possible but it must be flat smooth skin and not curved. **Use only the flat mounting pads.**

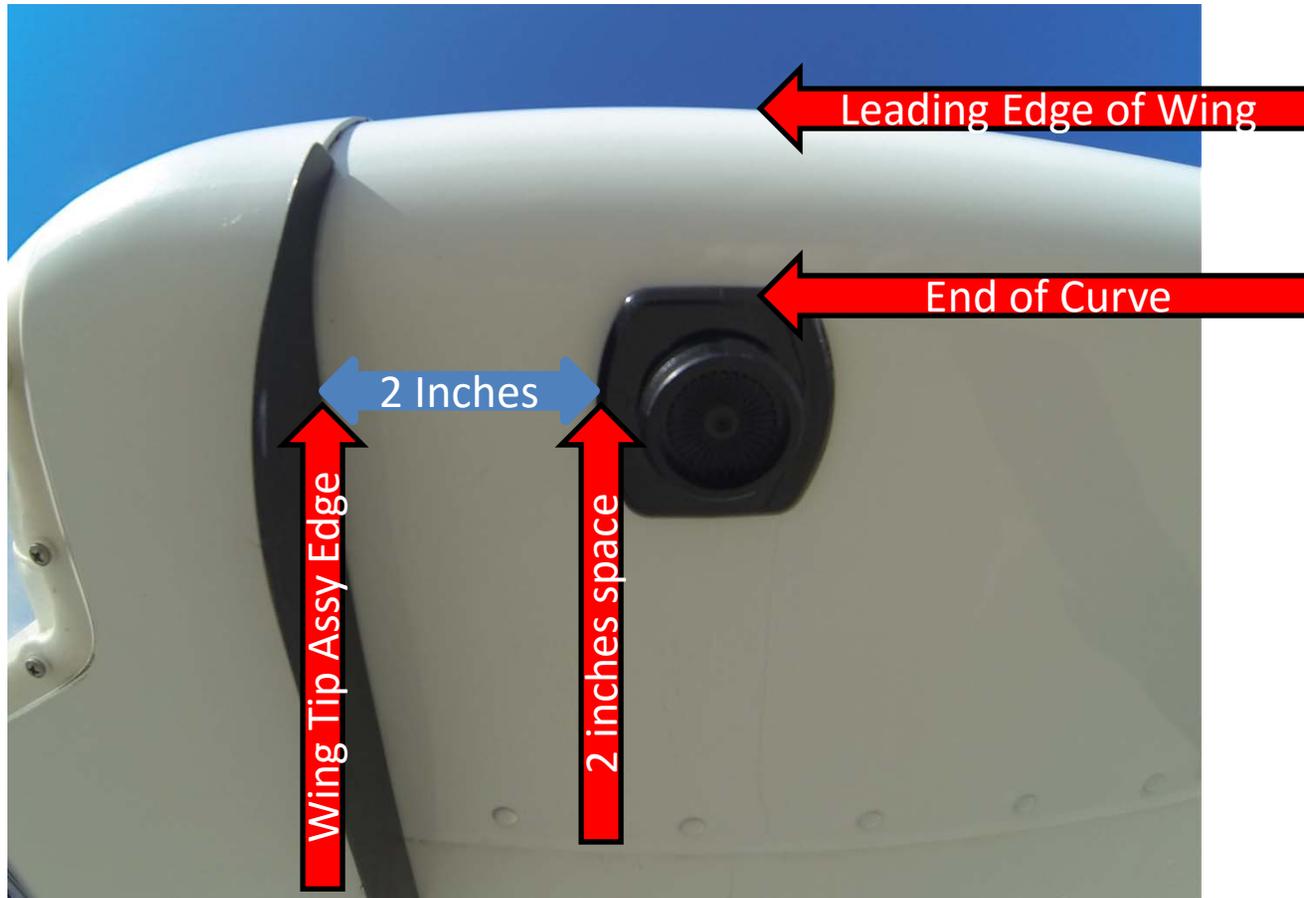


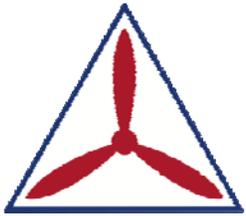
Garmin Virb Kit – Adhering to the wing





Garmin Virb Kit – Adhering to the wing

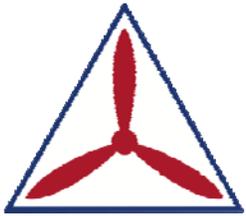




Garmin Virb Kit – Adhering to the wing

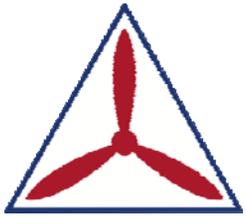
External Camera Mounts

- FAA Memo(s) on External Camera
 - o Not considered Major Alteration
- Logbook entry: “Installation of Garmin Virb mounting pad to right wing, 2 inches inboard from the right wing tip assembly. The mounting pad and when attached the Garmin Virb camera cause no change to flight characteristics of the aircraft. <Name of installer, pilot certificate number>”

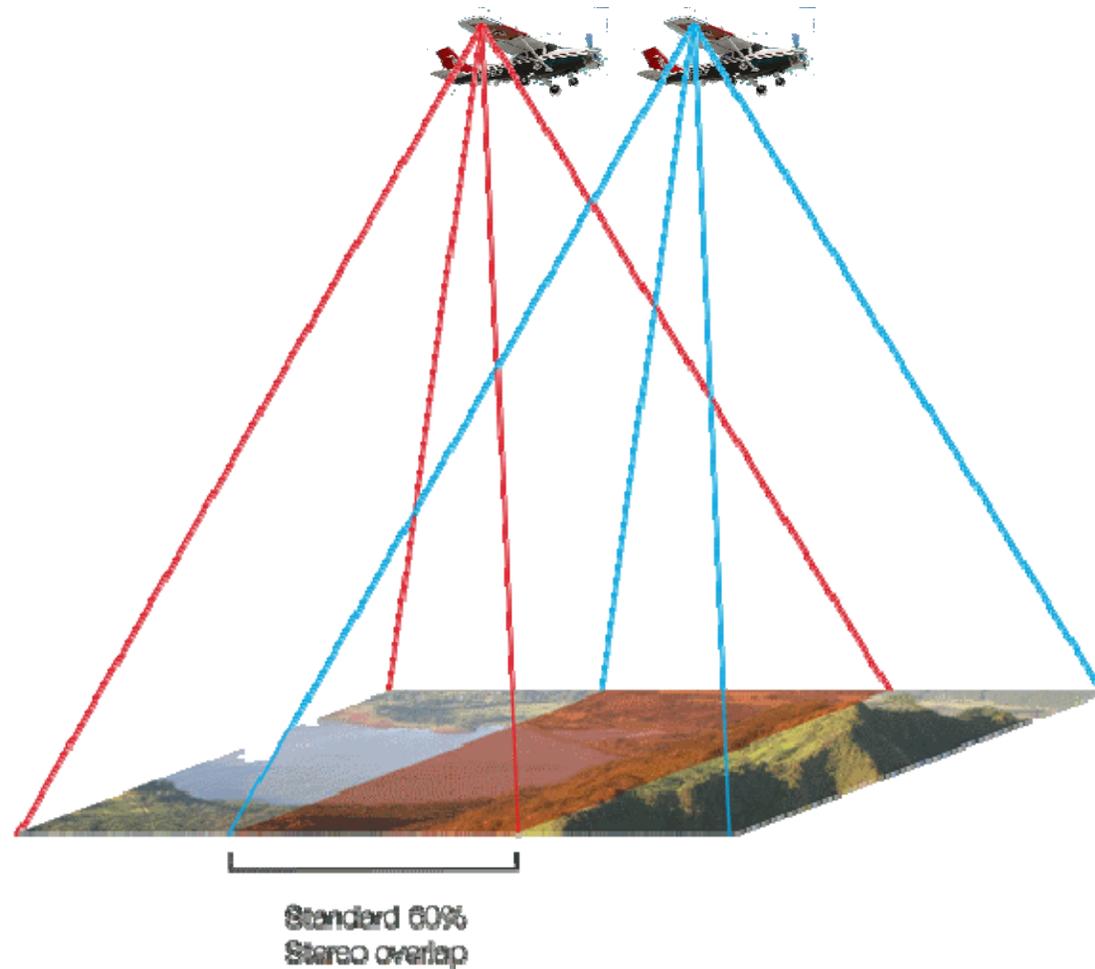


Flight Profile

- ↴ 2500 AGL
- ↴ 100 KTS Ground Speed
- ↴ Suggest 1 notch of flaps for wing level flight
- ↴ Camera at 10 Second intervals
- ↴ 1/2 mile grid or “line to line” spacing
 - As Briefed

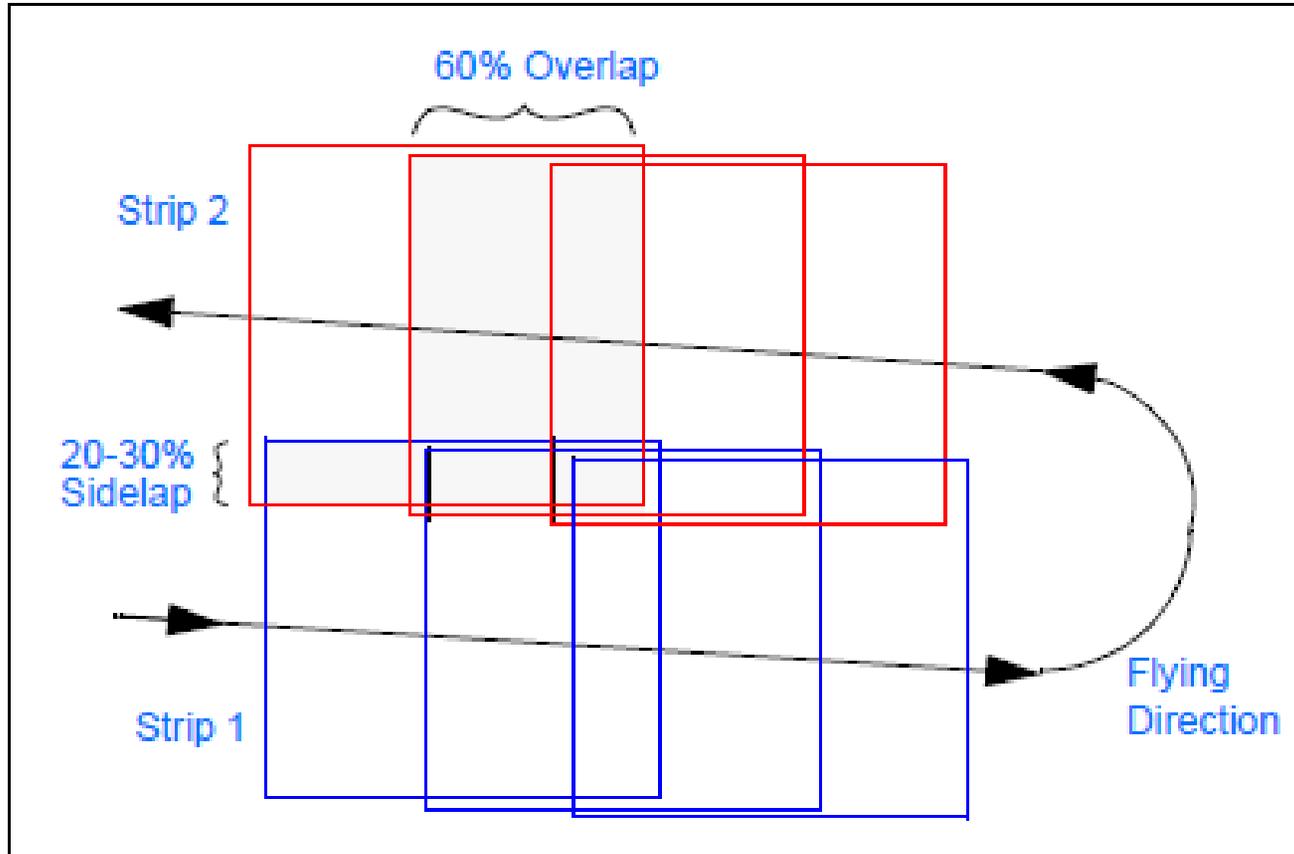


Flight Profile - Nadir



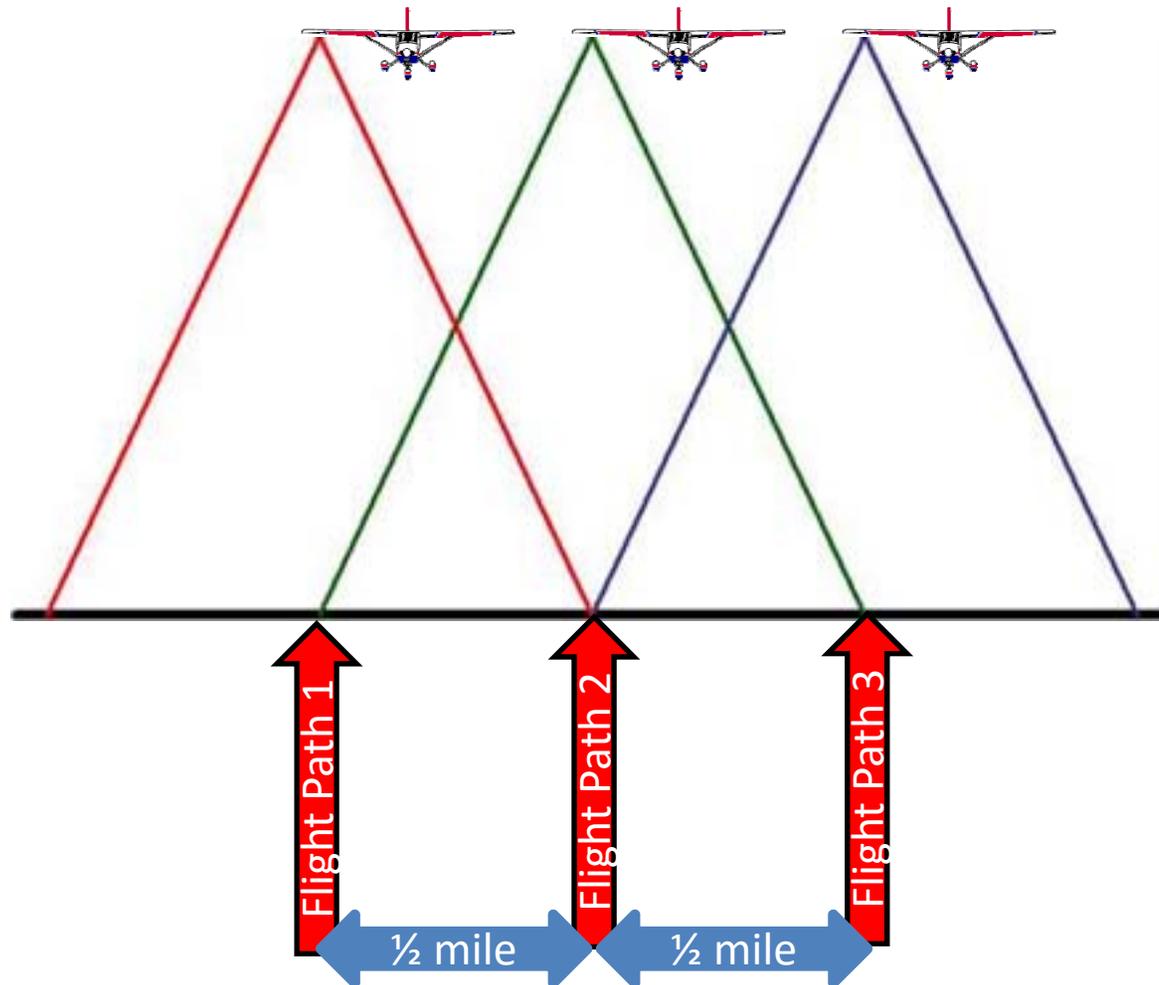


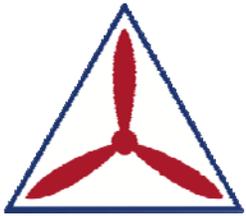
Flight Profile - Nadir





Flight Profile - Nadir





Flight Profile

✂ Flight Profile

- 2500 AGL, 100 KTS, ½ mile grid
- Camera at 10 Second intervals

✂ Flight 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