

Navigating Your Stratux



By: Grant Conery, Owner of Everlast Concepts LLC

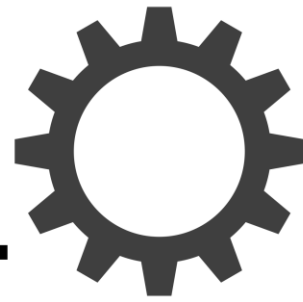
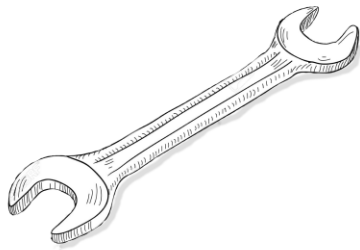
Table of Contents

Click where you want to go

Introduction	3
Unit Identification.....	4
Connecting to “Stratux” Wifi and Configuring Web Interface (App)	5
Shutting Down Your Stratux	13
Units with AHRS (V2).....	15
Updating AHRS Units (V2 Units or Upgraded Units)	16
Light Indications.....	26
Frequently Asked Questions	27
Product Videos Archive	29

Introduction

We get it - you're a pilot - and you want to be able to have as much useful information in front of you as possible. When it's capable of being displayed on your favorite electronic device, it's just the icing on the cake. With the Stratux ADS-B In receiver, you get tons of useful traffic information, WAAS GPS - giving your electronic flight bag GPS signal, in-flight weather information and much more.



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Use this document to learn how to navigate your Stratux and to get up and running quickly.

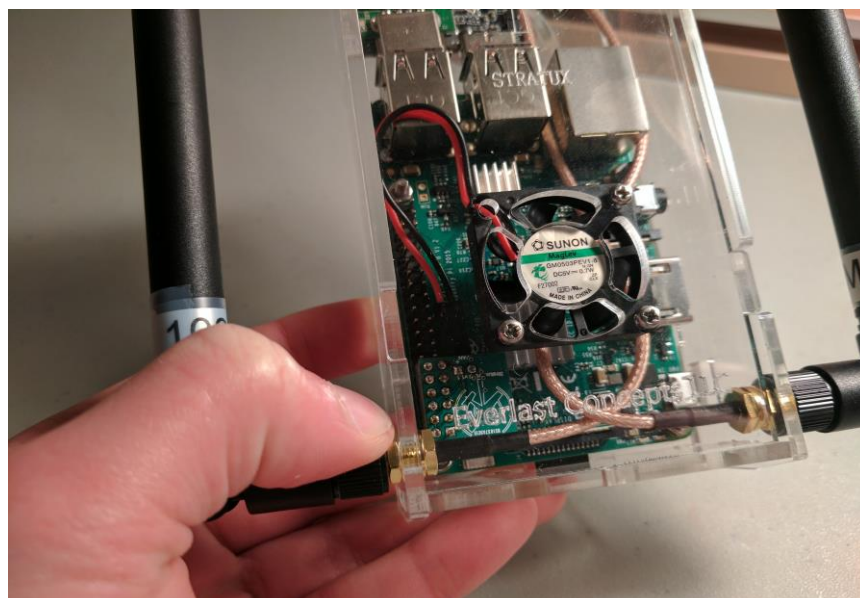
Unit Identification

Currently we have two models:-

- Stratux Dual Band ADS-B and Weather Receiver with WAAS GPS and Power Pack

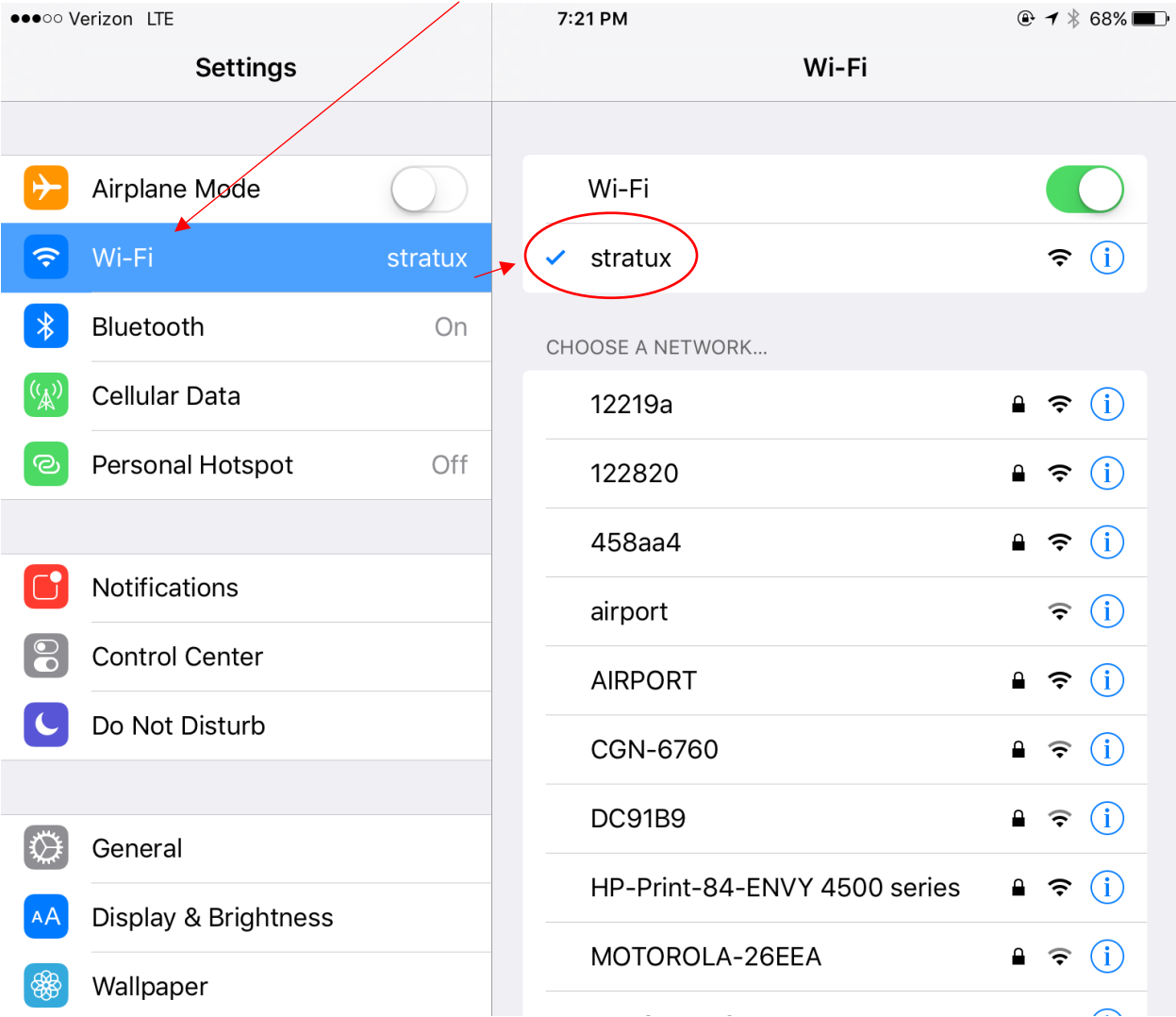


- Stratux Dual Band AHRS ADS-B and Weather Receiver with WAAS GPS and Power Pack (V2 AHRS Model) **Current Model** If you are unsure if you have AHRS go to the [Units with AHRS \(V2\)](#) Section of this guide.

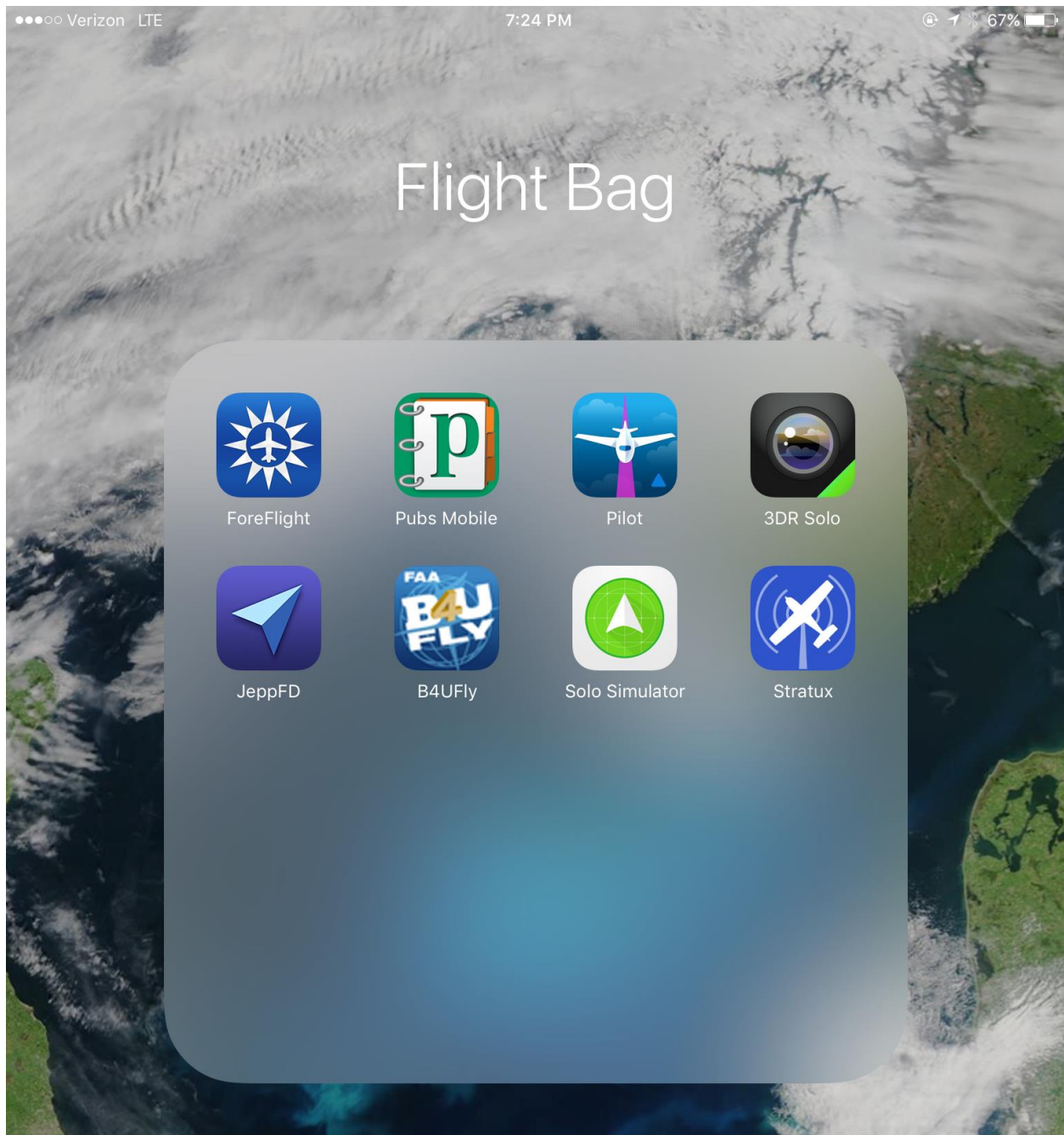


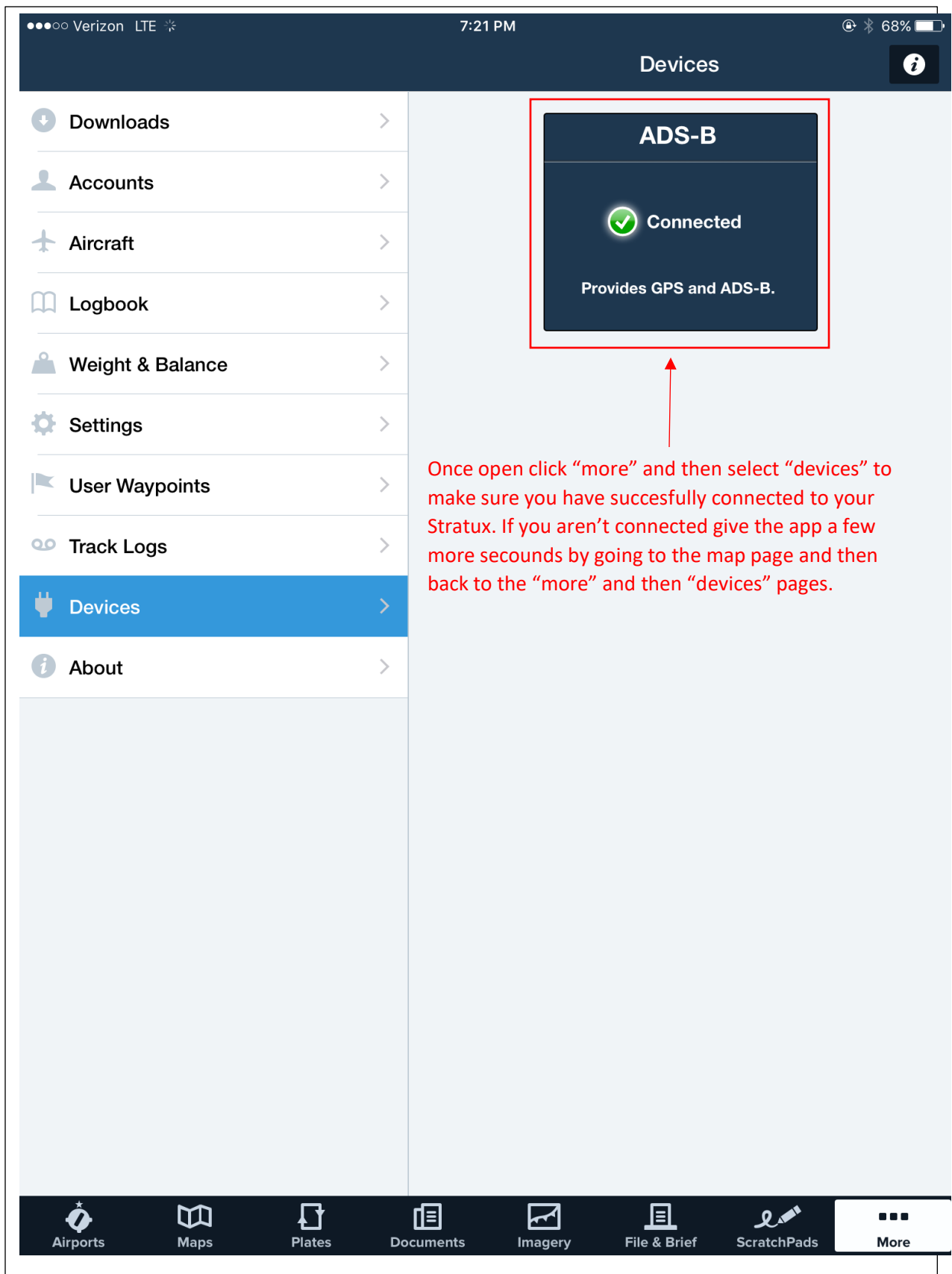
Connecting to “Stratux” Wifi and Configuring Web Interface (App)

Plug your Stratux into the pass-through battery pack. You should see some lights come on, and then navigate to your devices Wifi page and select the “Stratux” network. It will show as an open network and should show a checkmark once connected.



Next, navigate to your favorite supported EFB app and open it. This is the app I will use to demonstrate, as it is the most commonly used app for Stratux users.

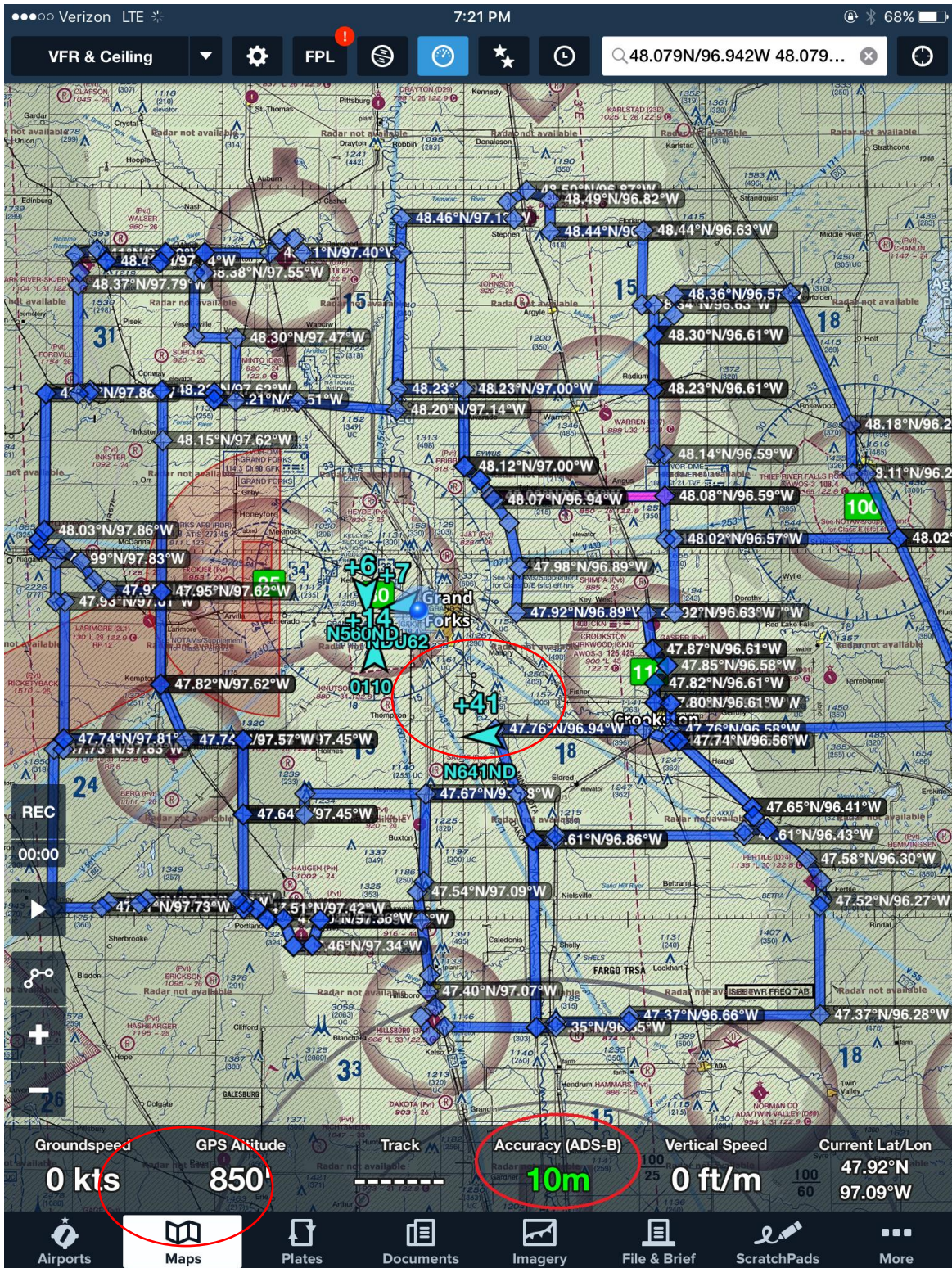




Once open click "more" and then select "devices" to make sure you have successfully connected to your Stratux. If you aren't connected give the app a few more seconds by going to the map page and then back to the "more" and then "devices" pages.

Go back to the [maps page](#) once you know you have successfully connected to Stratux. The Traffic will be automatically displayed in light blue. You can tap on the traffic to get more detailed information.

The ADS-B GPS can take up to a few minutes to boot up. As it does, the accuracy will go up. The blue lines are just “practice areas” drawn out in the Flight Plan function of the app and have nothing to do with Stratux.



Next open Safari, has to be safari on apple devices, and type "192.168.10.1" without the quotes. This page should load and is the webpage interface of Stratux.

Verizon LTE 7:23 PM 67%

192.168.10.1

MENU Stratux HELP

Version: v1.0r1 (945c8bf6bc)

Status **Connected**

Recent Clients: 1 SDR devices: 2

Messages	Current	Peak
UAT:	9	83
1090ES:	366	605

UAT Towers: 0

GPS solution: GPS + SBAS (WAAS / EGNOS)

GPS satellites: 7 in solution; 13 seen; 20 tracked

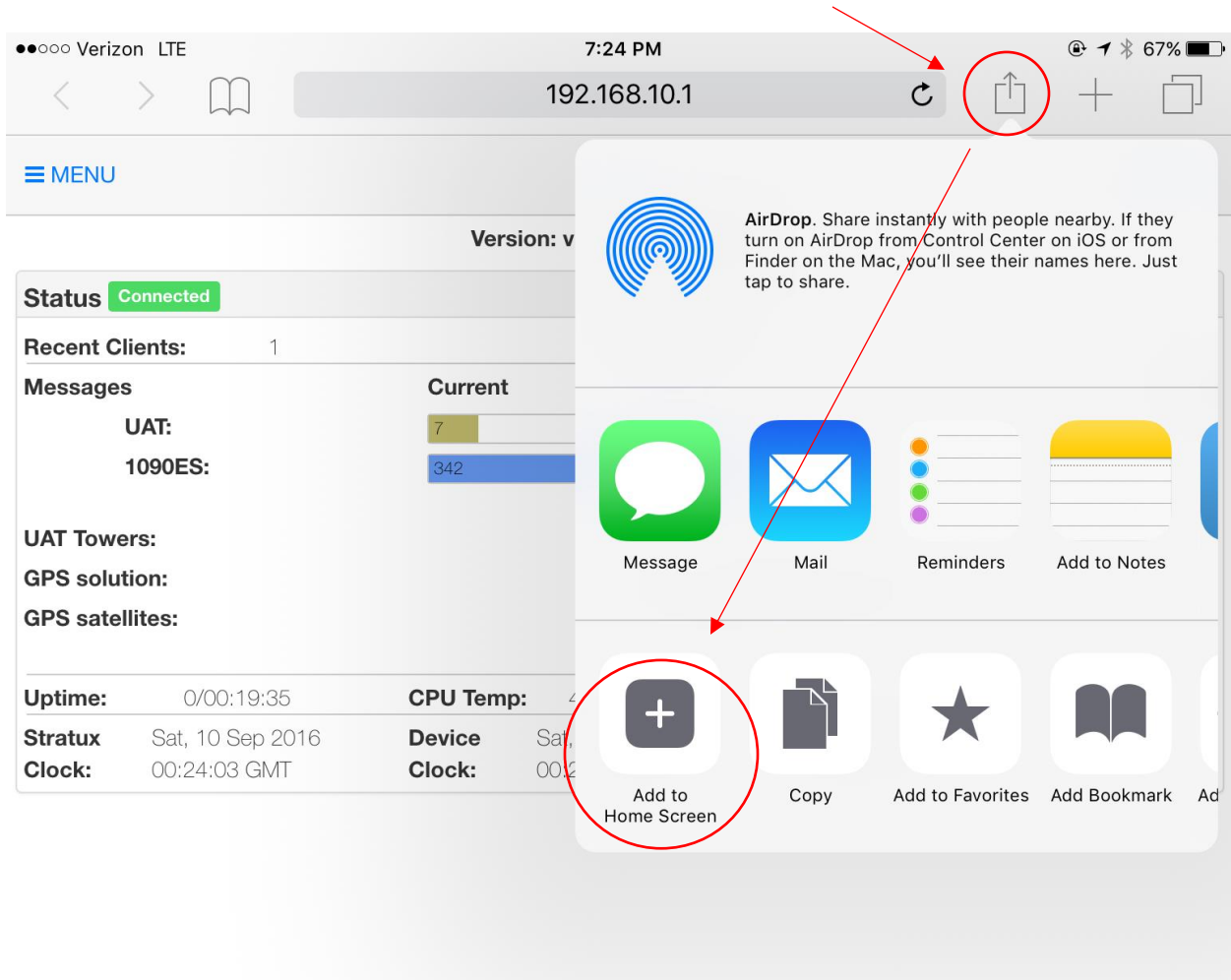
Uptime: 0/00:19:26 CPU Temp: 41.7C / 107.1F

Stratux Sat, 10 Sep 2016 Device Sat, 10 Sep 2016 Difference: -0.82 sec

Clock: 00:23:54 GMT Clock: 00:23:55 GMT

Next **click on** the box with the **up arrow** -> then **click on** “**add to home screen.**”

If “**add to home screen**” is not there: **click on more** -> then **move** “**add to home screen**” to the top by **pressing and holding** on the **three grey bars** while you **slide it** to the top. Then **click** “**done**” and then the “**add to home screen**” button should be **clickable**.



Then click "Add"

Verizon LTE 7:24 PM 67%

192.168.10.1

MENU Stratux Cancel Add to Home **Add**

Version: v1.0r1 (945c8l)

Status **Connected**

Recent Clients: 1 SDR devi

Messages Current

UAT: 7

1090ES: 339

UAT Towers: 0

GPS solution: GPS + SBAS (WAAS / EGNOS)

GPS satellites: 7 in solution; 13 seen; 20 tracked

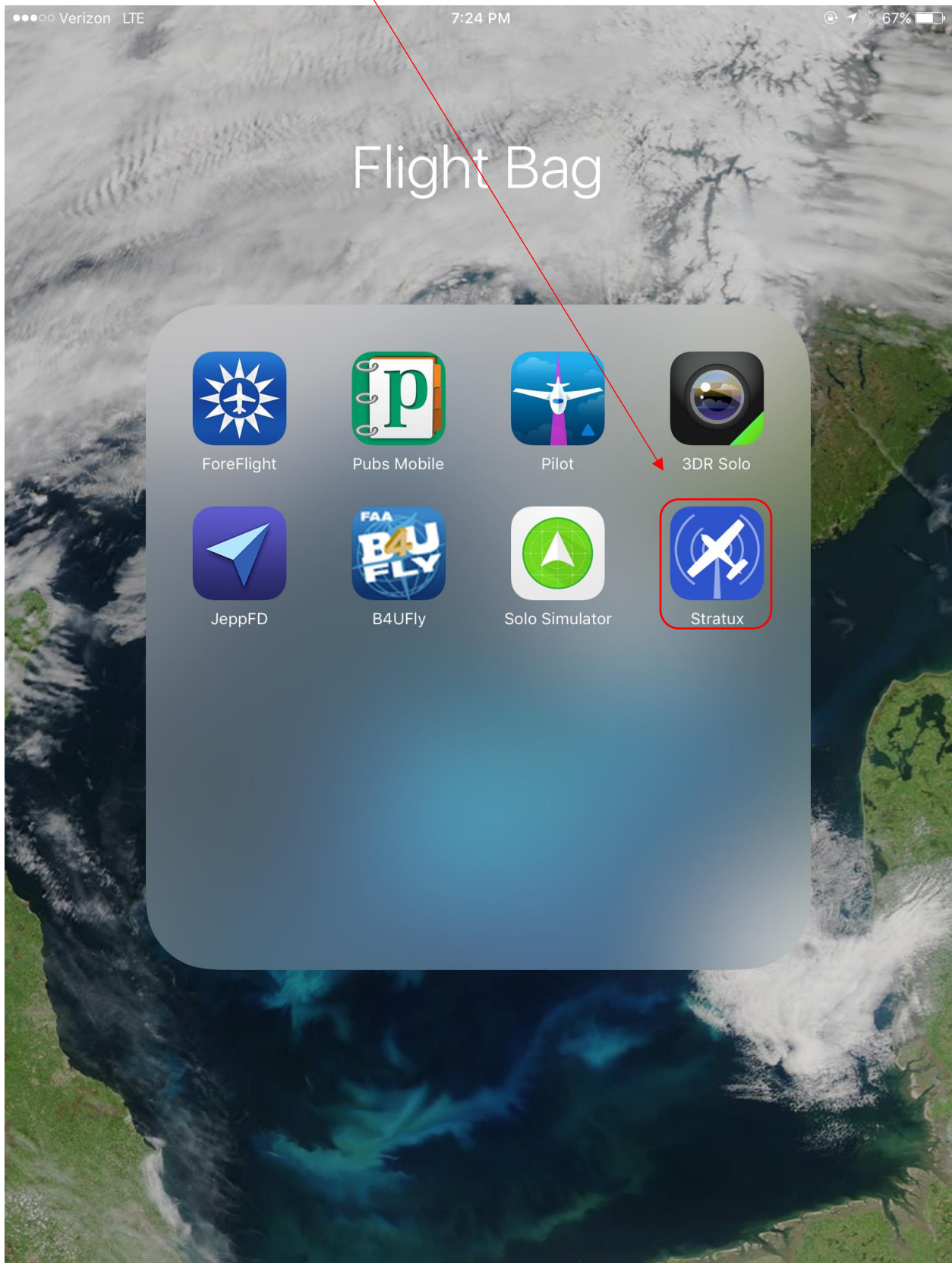
Uptime: 0/00:19:40 CPU Temp: 41.2C / 106.1F

Stratux Sat, 10 Sep 2016 Device Sat, 10 Sep 2016 Difference: -0.81 sec

Clock: 00:24:08 GMT Clock: 00:24:09 GMT

Stratux
http://192.168.10.1/#/
An icon will be added to your home screen so you can quickly access this website.

Now you have a **clickable** icon to get to the Stratux web interface.



Shutting Down Your Stratux

IMPORTANT

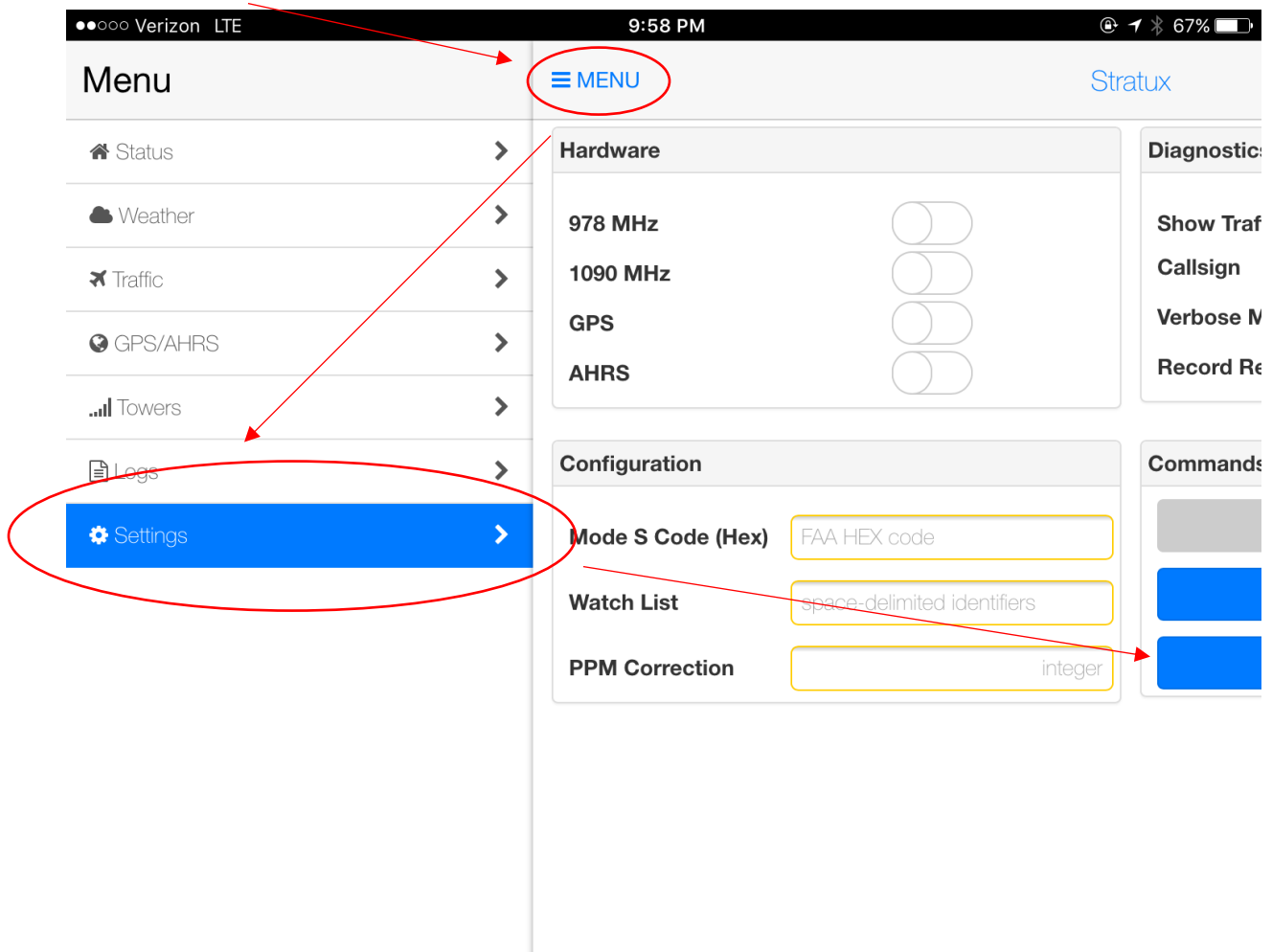
When you want to shutdown your Stratux **click on** the Stratux icon and then **click**:

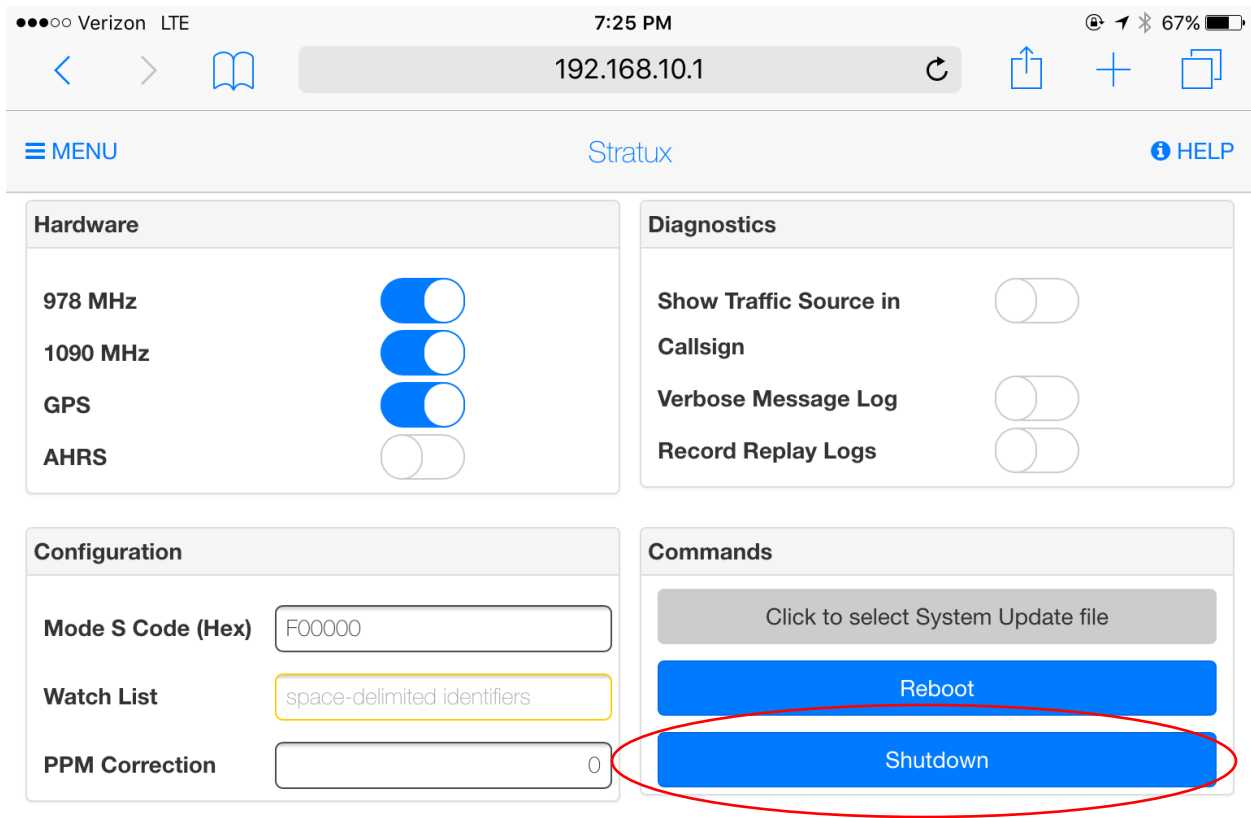
“Menu” -> “Settings” -> “Shutdown”

If you just pull out the USB cord you run the risk of corrupting the micro SD card. This will require a reflash of the Stratux image onto the micro SD card if it happens.

Reflashing Info (if needed)

You will know if corruption has occurred by the unit not functioning anymore. Do not panic, you will just need to reflash your SD card. Follow this video:-





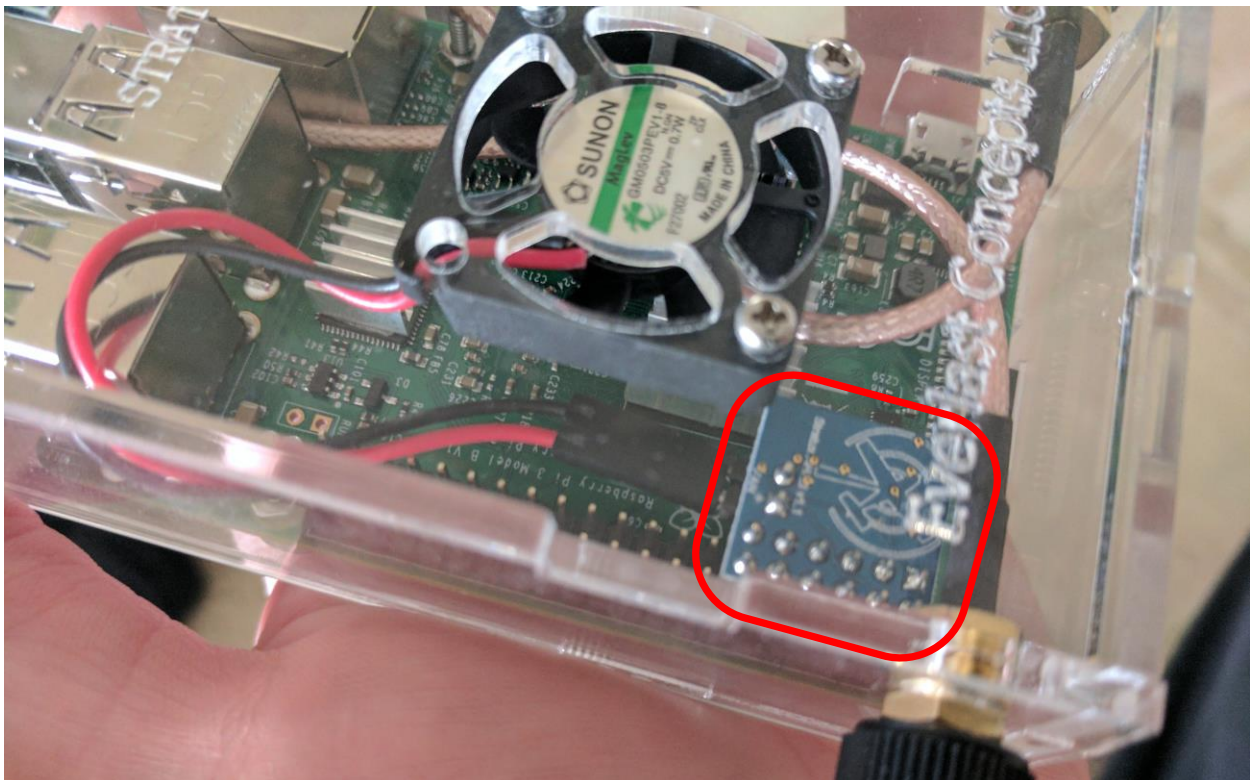
Always turn your Stratux off in this fashion.

Give it 45secs to shut down and then unplug the unit from power

Units with AHRS (V2)

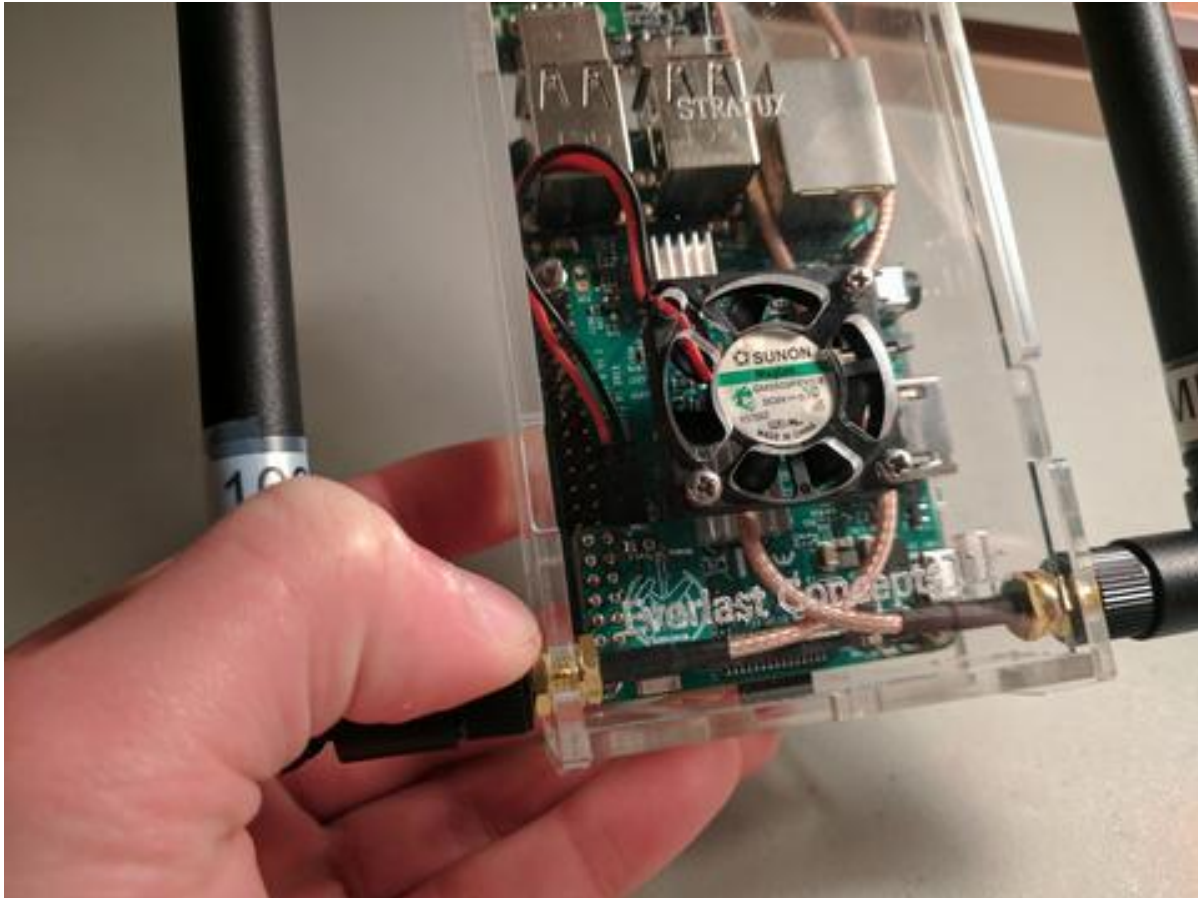
The part circled in red is the Stratux AHRS + Fan Controller. If your unit has this board you have AHRS capabilities (all V2 units have this board). If your unit doesn't have this, you can pick up a Stratux AHRS + Fan Controller module at:-

<https://www.everlastconcepts.com/products/stratux-ahrs-board-fan-controller>



To learn how to update your AHRS Stratux Model please scroll to the next page and follow the description. It will have a document called "Updating Your Stratux" linked. You will also find a helpful video that walks you step by step on how to update your unit. Please read the page carefully as you have to use a specific image file to keep AHRS functionality.

Updating AHRS Units (V2 Units or Upgraded Units)



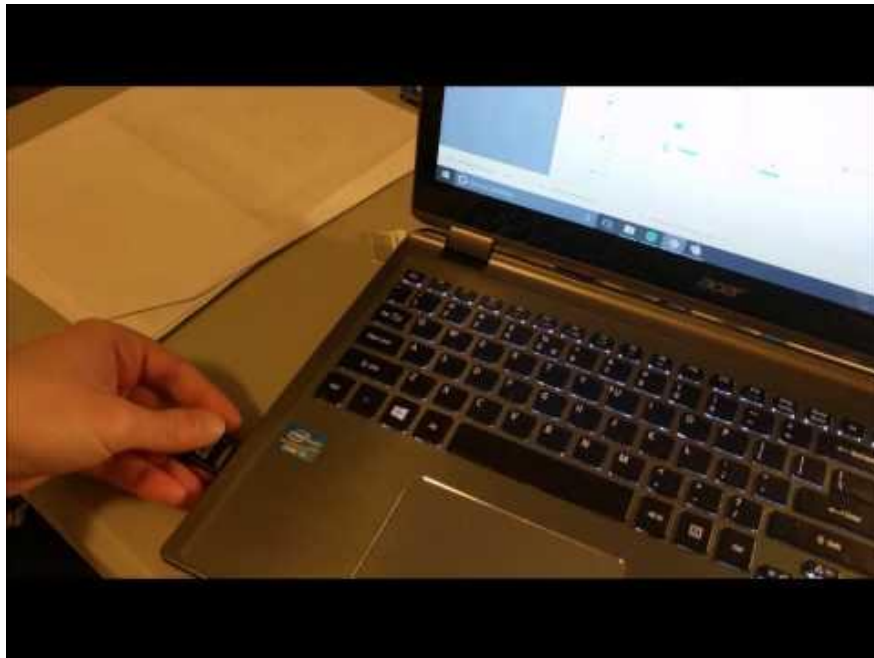
You will need to add a special image to your micro sd card. The special image can be found at:- <https://github.com/westphae/stratux/releases> Please scroll down until you see a list of blue hyperlinks and click on the file name that ends in **.img.zip** Or use this direct download link:- <https://github.com/westphae/stratux/releases/download/ahrs0.4/stratux-ahrs0.4-adfa54813a.img.zip>

Once that has been downloaded (the zipped image file), [follow this guide](#) as you watch the video below. Do note that **you will skip** the part of downloading the image off the stratux.me page, as you **need to use the special image file that we downloaded above**. All the other steps are exactly the same including how to unzip the file.

Lastly, please note that the AHRS board does not currently work with ForeFlight's Synthetic Vision. The hardware of the board will be supported in future main branch updates (we are still waiting for the software to get up to speed).

The fan controller will work no matter what app you use as long as you have the most current update. If you use Foreflight, and will just be waiting for its future ARHS support, then you can go ahead and just use the main branch image file on the stratux.me page - as depicted in the video/document above.

Updating Video Guide



Alternatively

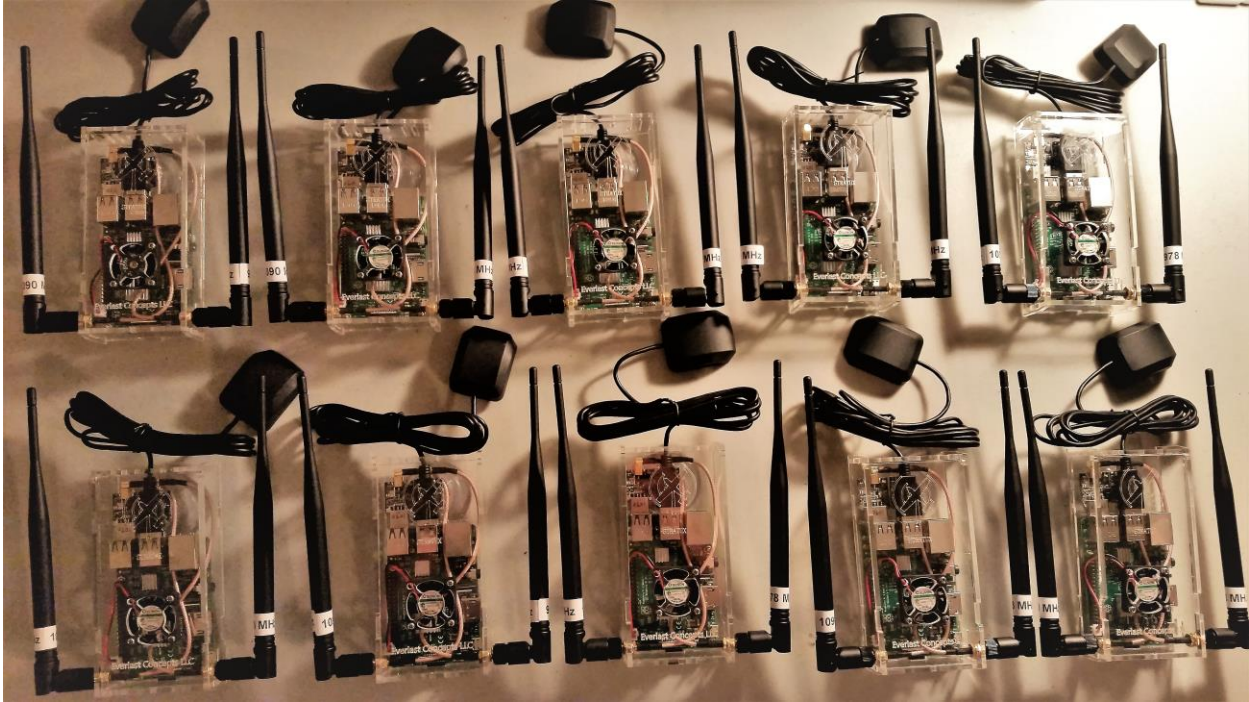
Don't want to go through the whole process of updating your Stratux? That's okay, with a pre-flashed SD card just pop out the old sd card and pop in this new one. You're now updated! Yes, it really is that easy.

[Click Here to buy a pre-flashed micro SD card for AHRS Models](#)

IMPORTANT NOTES:-

They ship with the **most current stable main branch** release **or** the **most current AHRS branch**. You will want the AHRS branch if you have the AHRS + Fan Controller Board. Click the dropdown box and select "AHRS Branch" at: <https://www.everlastconcepts.com/products/pre-flashed-stratux-micro-sd-card?variant=42148509767>

Updating Your Stratux (Non-AHRS Units)



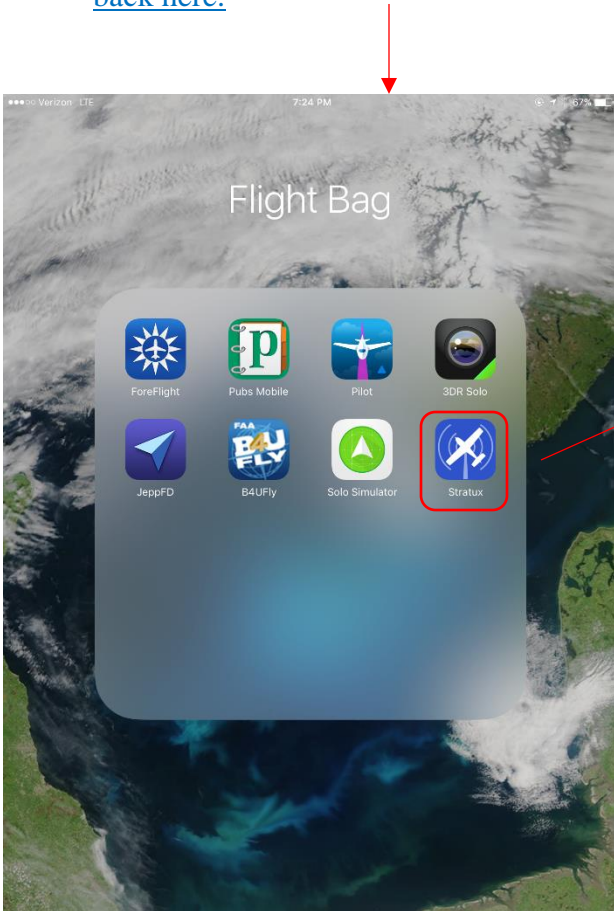
Updating Video Guide



Follow the video above as you follow the steps below

Step 1

Check to see what version your Stratux is by **clicking** on the icon we made in “Navigating your Stratux” document and looking at the heading on the main page. If you didn’t follow the first set of instructions “Navigating your Stratux” [click here to do them and then come back here.](#)



Verizon LTE 7:23 PM 67%

192.168.10.1

MENU Stratux HELP

Version: v1.0r1 (945c8bf6bc)

Status **Connected**

Recent Clients: 1 SDR devices: 2

Messages

	Current	Peak
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UAT Towers: 0

GPS solution: GPS + SBAS (WAAS / EGNOS)

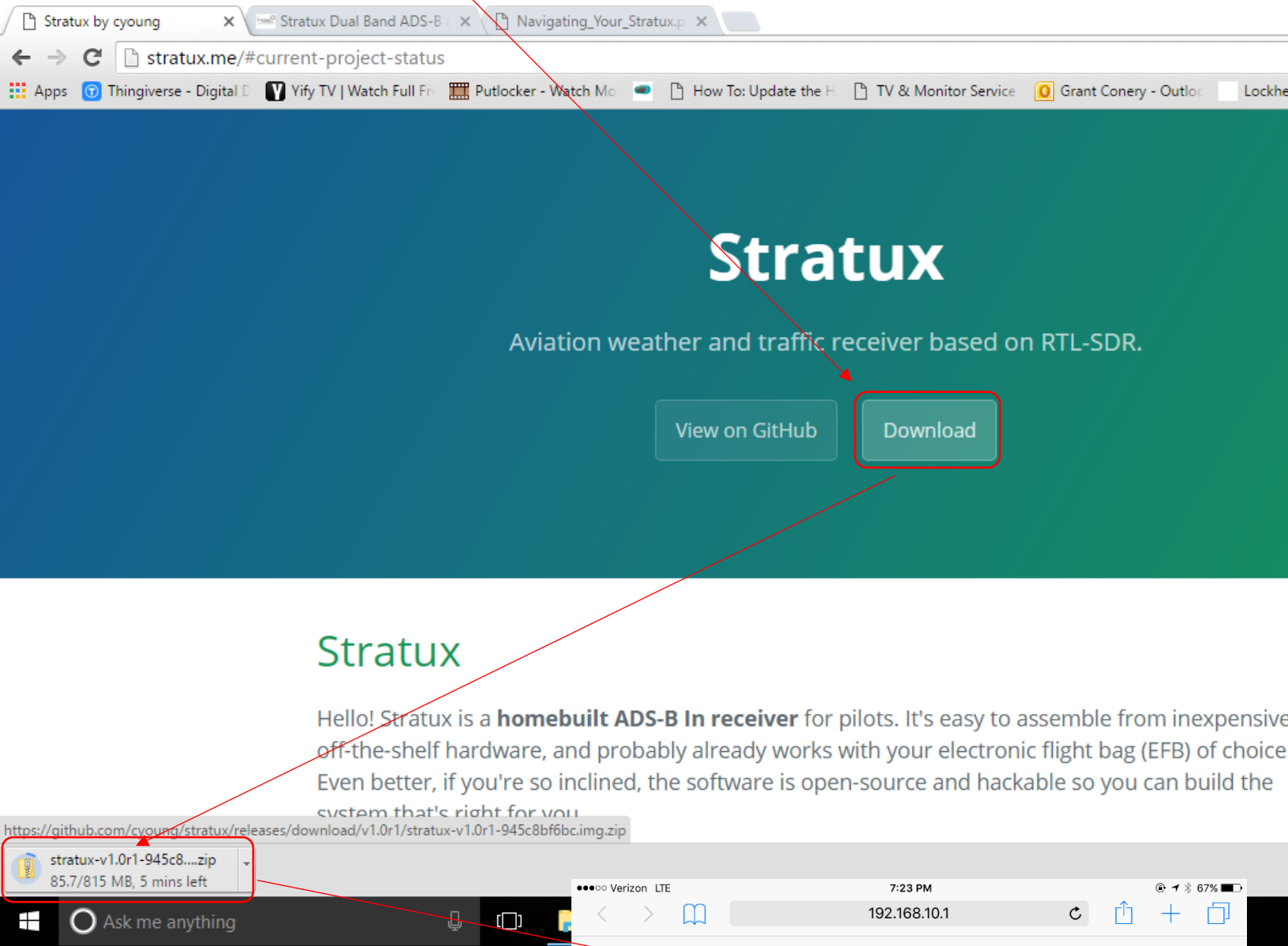
GPS satellites: 7 in solution; 13 seen; 20 tracked

Uptime: 0/00:19:26 CPU Temp: 41.7C / 107.1F

Stratux	Sat, 10 Sep 2016	Device	Sat, 10 Sep 2016	Difference:	-0.82 sec
Clock:	00:23:54 GMT	Clock:	00:23:55 GMT		

Step 2

Go to the <http://stratux.me/#current-project-status> page and click “download” While the file is downloading you can see the file name, check whether or not the file name is the same as yours. If it is the same name, then you don’t need to update yet. If the two names are different, then you need to update.



If these match cancel the download, your Stratux is already up to date. If they don’t match wait for the download to complete and move to the next step.

Step 3

Once downloaded, your computer might open up a window, just exit out of it. Now navigate to [your downloads folder](#), and find the Stratux file that you [just downloaded](#). Once there right click – then click extract all. After you click “extract all” It will bring up a window, click “extract” in the pop up window and then wait for your computer to extract the file.

****If you don't have windows 10, that has a built in unzipping software, I recommend [7-zip](#). Then follow the next step after you get you file extracted with 7-zip****

This is the folder that will contain the extracted image file. Once it is done extracting it will open up a window containing the extracted file. Keep this window open while we go to the next step.

Name	Date modified	Type	Size
stratux-v1.0r1-945c8bf6bc.img	9/12/2016 7:16 PM	Disc Image File	2,455,552 KB

This is the final window that should pop up. Keep this window open for step 7.

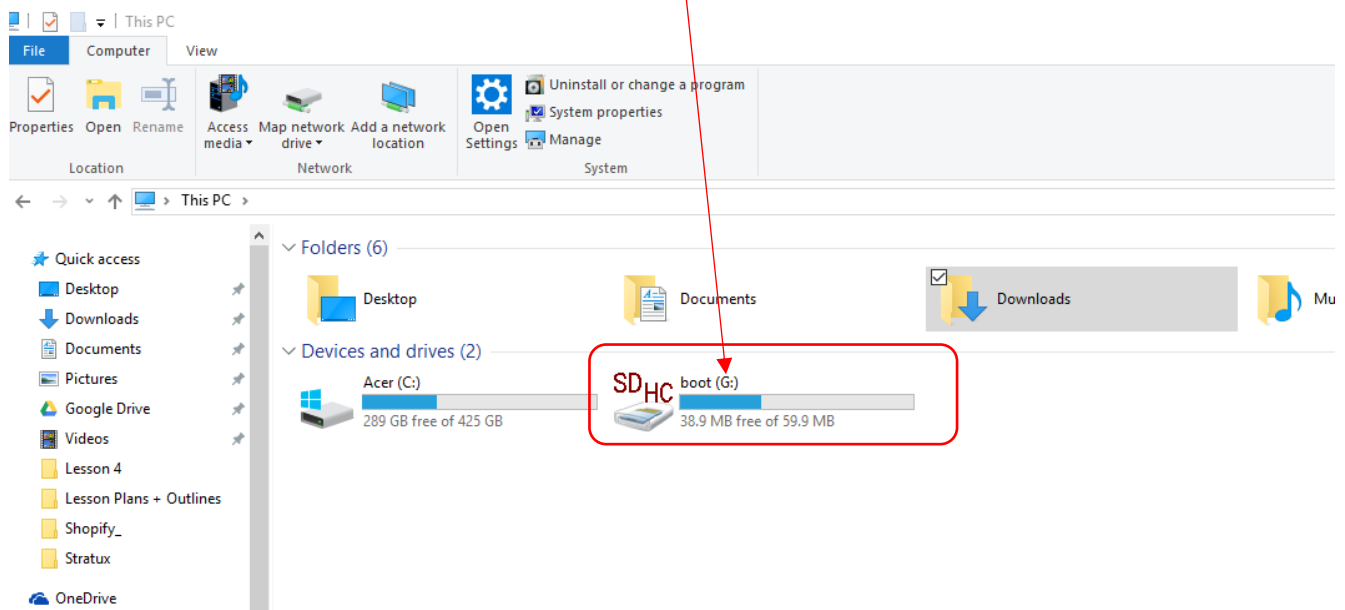
Step 4

Download these two programs.

- [SD Formatter](#) scroll to the bottom of the page and select **accept** and then the download should begin. **Extract** the downloaded folder and install the program.
- [Win32DiskImager](#) **Click** the green **download button** and then the download should begin after 20secs. Once the download is complete **click** on the **executable file** to open the program.

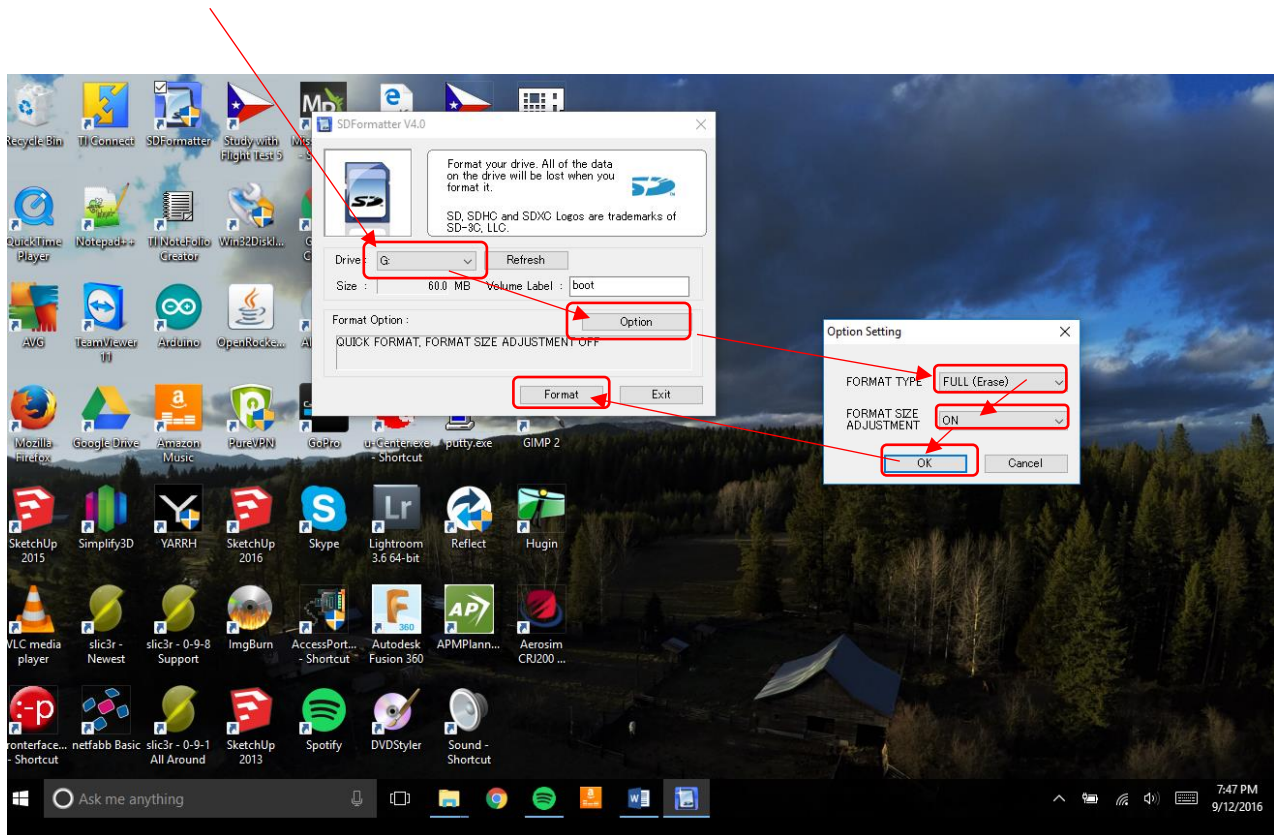
Step 5

Unplug you Statux and then **pull the micro SD card out** of the raspberry pi (**small slot on the underside side**). And then put it into your micro SD card adapter and then put it into your computers SD card slot. If you don't have an SD card adapter on your computer [here is one that will work](#). Once your micro SD card is connected to your computer go to **“my computer”** or **“this pc”** to see what drive your computer assigned to your SD Card. It should say boot and show it as a small file. In this example my SD card was assigned **“G”** Then exit out of the window.



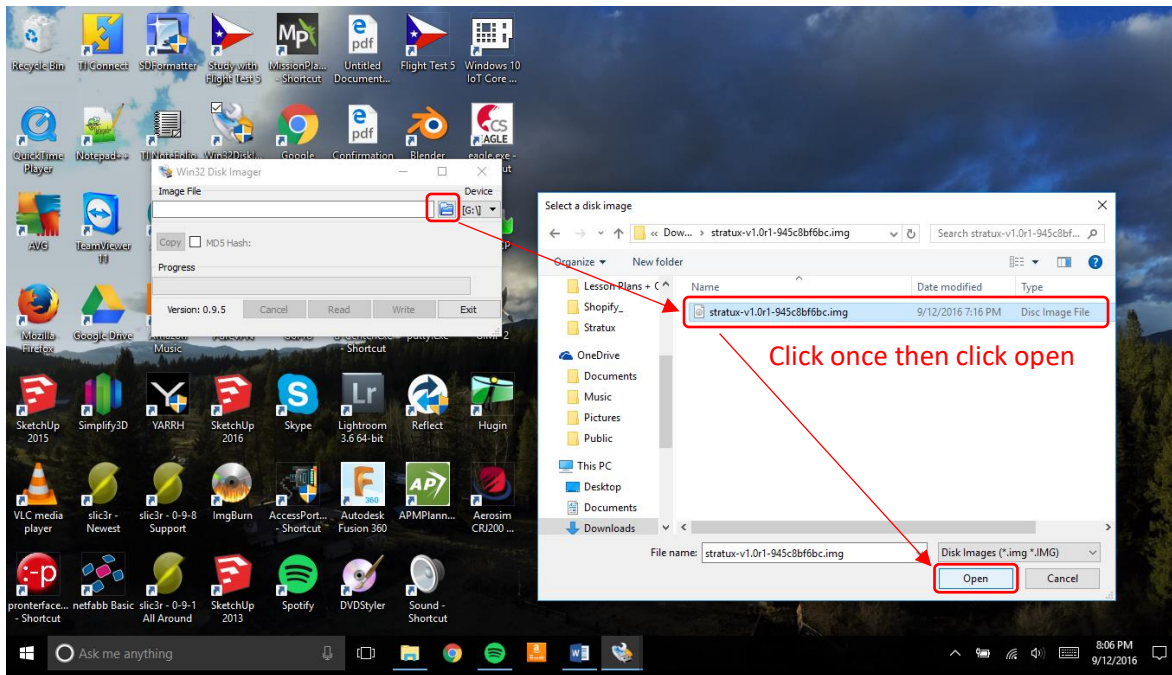
Step 6

Open up SD Formatter and then select the letter drive your computer assigned to your SD Card. Then click on “option” and then select “Full (erase)” and turn format size adjustment to “on” Then click “okay” and then click “format” It will give you a warning about writing to a physical drive, that is why we checked our drive letter earlier, and then select “okay.” Wait until it is done and then go to the next step.

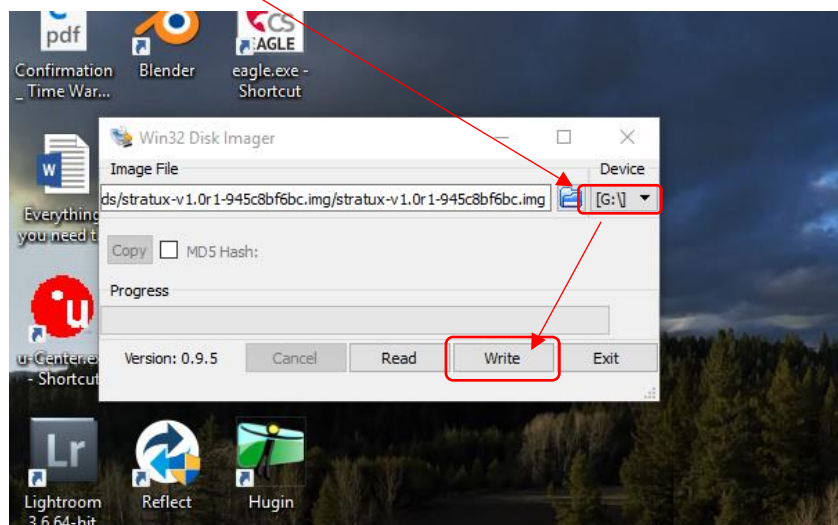


Step 7

Open up [Win32DiskImager](#) and then [click](#) on the [folder icon](#), and then [navigate](#) to the [unzipped image file](#) from step 3. If you don't know how to get to it, it is the file we kept open in the window from step 7. I had you keep this window open so that you would be able to figure out where the file is stored at. Once you have figured out how to navigate to the file [select](#) the file in [Win32DiskImager](#).



Next [make sure](#) the correct drive is selected and then click “[write](#)” and then click “[yes](#)” when the popup window opens.

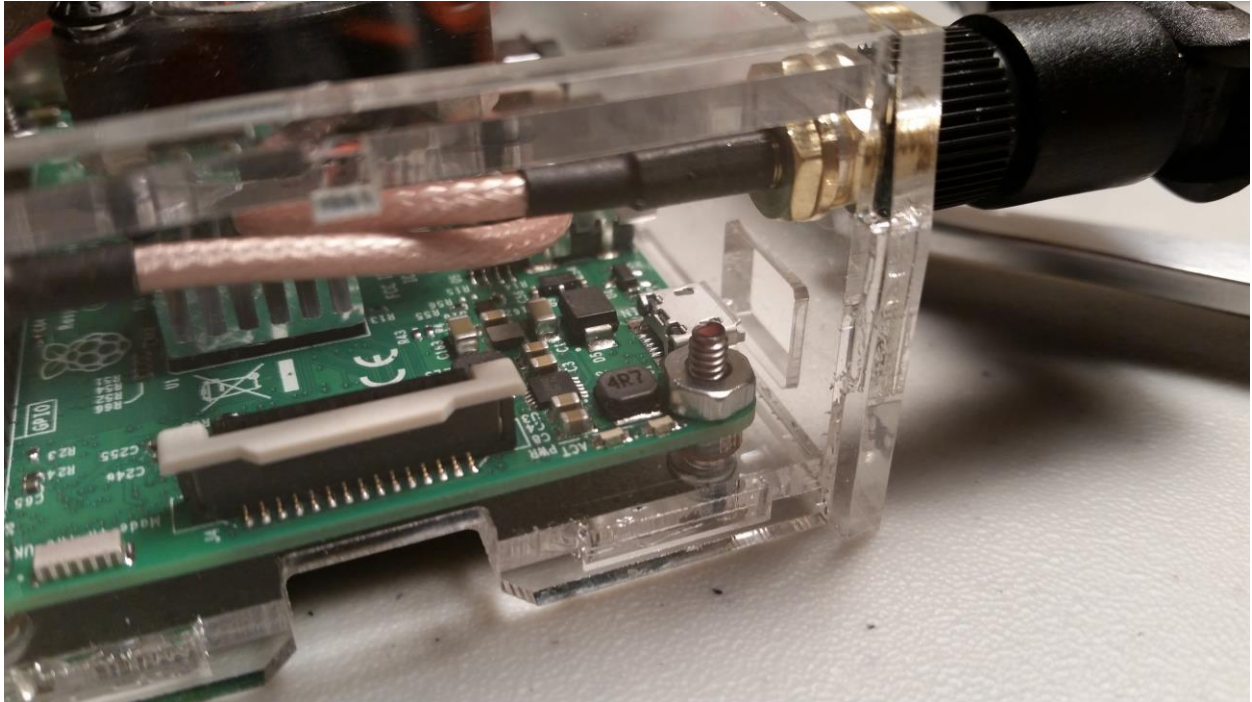


Step 8

Make sure the power is unplugged from your Stratux and then carefully place the micro SD card back into your Stratux. You are finished!!! Enjoy the added features and stability. If for some reason this didn't work reread the steps very carefully. I tried to make this very thorough.

Light Indications

Lastly, the new light indications are as follows:



Booting:-

Solid red light until you connect to the Stratux wifi. Once connected the green light will turn solid.

Booted:-

Both lights are solid in color.

Shutting down:-

Flashing green light accompanied by a solid red light and the fan shutting off. Once you see the green light turn solid again, and the fan stop, you can safely unplug the power.

Frequently Asked Questions

1) Why can I pick up traffic (TIS-B) on the ground but not weather (FIS-B)?

- a. It is normal to be able to pick up traffic info while on the ground because you can get traffic information from two sources: air-to-air and from ground stations. However, weather information can only be picked up from ground stations.

Typically, you won't be close enough to a ground station while on the ground to receive weather updates. Weather information becomes available (most places in the US) at and above a few thousand feet AGL. To see a good estimate of when you should start to see weather information in your area please visit:-

<https://www.faa.gov/nextgen/programs/adsb/ICM/>

Please understand that you still may not receive a complete traffic picture with just ADS-B In. Situational awareness must be maintained at all times, and see and avoid techniques must also be used. If your aircraft doesn't yet have ADS-B out you will essentially be "piggy backing" off other aircraft to receive traffic info. Furthermore, not all aircraft are equipped with ADS-B Out yet and won't be displayed in the ADS-B system.

2) ForeFlight says I am receiving 0 ADS-B Towers. Why?

- a. If you are on the ground you won't be able to receive weather info until a few thousand feet AGL. Reference question one to understand more about why this might be happening. If this is happening in the air, chances are that you are actually receiving weather info but it might be intermittent. This issue is usually due to not being at a high enough altitude. Try a higher altitude for that area.

3) My GPS is not picking up any satellites or has a worse accuracy than normal.

- a. If you are inside, that is most likely your problem. It will take the GPS unit longer to pick up the needed satellites for a lock. If indoors the GPS unit may never receive a lock depending on your location and position within the structure.

If you are outside or in your aircraft make sure that the GPS unit has a clear view of the sky. Also, make sure that the part you're facing towards the sky is the solid-humped-black-part of the GPS.

Please note: - that on the first boot of the day the GPS may take some time to acquire a fix as it needs time to download all the satellites in its area. This can also happen if you take your unit to a new location without it being booted while in transit. It is normal and will (at most) take a minute or two.

Product Videos Archive

Video 1

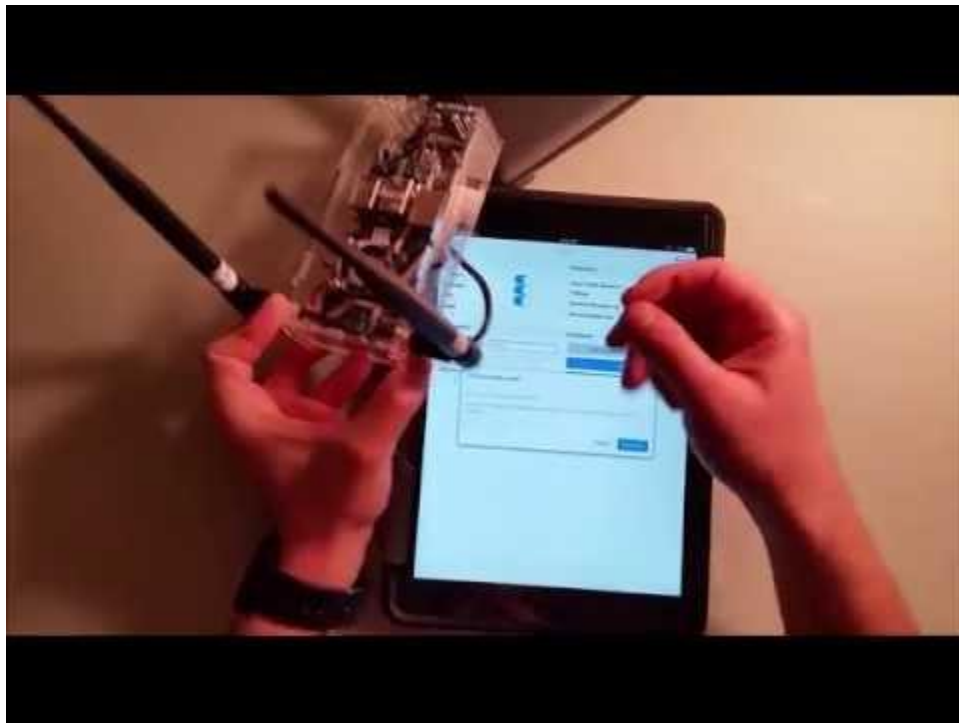
- Describes how to navigate the unit and its software.



Click on the video to watch

Video 2

- Describes how to navigate the unit and its software.



Click on the video to watch

Video 2

- Describes how to navigate the unit and its software and what you get in the box.



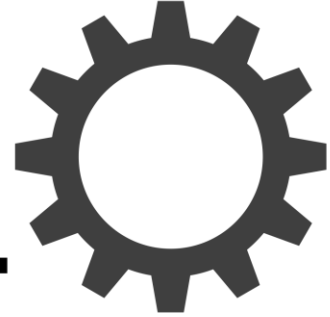
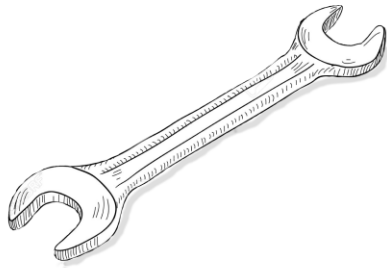
Click on the video to watch

Video 3

- Describes how to update your Stratux in detail.



Click on the video to watch



Everlast Concepts LLC

We Make Concepts Last Forever

Thank you for your purchase and for supporting the future aviators of tomorrow! Remember \$10 from each unit sold goes directly into an UND Aviation Scholarship Fund and another \$10 goes directly to the Stratux Project and cyoung to support further development. This helps to bring new features to the project!

Again, thank you for your purchase!

Grant Conery, Owner of Everlast Concepts LLC

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Website

<https://www.everlastconcepts.com/>