



# Pilot's Guide

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A Practical Guide to FlyQ+ EFB  
Version 7.1



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## Preface

Thank you for using FlyQ+ EFB from Seattle Avionics. This Pilot's Guide will help you get up to speed with FlyQ+ EFB quickly. We hope you find it useful, and we welcome your feedback as we strive to continually improve the product.

There is a lot of information here and we encourage you to refer to it often. If you have questions or comments on FlyQ+ EFB, please contact us at [FlyQ+ EFB Support](#). We're constantly trying to improve both the app itself and the learning materials so don't be shy if you're confused about something, want to suggest a new feature, or think you've found a bug – please let us know.

This document is a key part of learning FlyQ+ EFB but it's not the only way. Seattle Avionics has a wide range of videos, documents, and presentations that help you become proficient with the app.

### Help from within the app

Select **Settings**  then **Help**.

### Training videos

<https://youtube.com/FlyQEfb>

### FlyQ+ EFB info, downloads, and reviews on the App Store

<https://itunes.apple.com/us/app/flyq-efb/id915571252?mt=8>

### General Info

<https://www.seattleavionics.com/FlyQEfb.aspx>

### FlyQ+ EFB Overview video

<https://youtu.be/GOt4tGJu78g>

### Pilot's Guide (this document)

<https://www.seattleavionics.com/Documents/FlyQEfbGettingStarted.pdf>

**Note:** Also available in the **Documents** tab of the app.

### List of supported ADS-B systems

[https://www.seattleavionics.com/products/FlyQ\\_efb/ADS-b/index.html](https://www.seattleavionics.com/products/FlyQ_efb/ADS-b/index.html)

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## What's New?

### Version 7.1 (11/6/2024)

#### New Features and Improvements:

- ADDED: New Dynamic Glide Ring layer uses terrain, winds, and aircraft performance to show where landing is possible if your engine fails.
- IMPROVED: ChartData Manager now displays detailed info about multiple data cycles
- IMPROVED: Leidos briefing can now be shown full-screen
- FIXED: TAC layer does not display TAWS
- FIXED: Leidos briefing cannot be sent to Documents
- FIXED: Multi-cycle download does not download SA Diagrams for the next cycle properly
- FIXED: Multi-cycle download unnecessarily downloads maps even for cycles that do not have new maps
- FIXED: Highlight colors set incorrectly after sending an email
- FIXED: The Done button fails to close an open Document in some cases
- FIXED: Left and Right buttons on the Procedures tab sometimes overlap other buttons
- FIXED: An empty flight plan is sometimes returned from the server
- FIXED: Nearby Airspace pop-up shows overlapping text in some cases
- FIXED: The Status pop-up is sometimes clipped at the bottom
- FIXED: The ADS-B status buttons are not visually correct
- FIXED: Various iOS 18 visual issues
- FIXED: Altitudes are sometimes displayed with overlapping numbers in the Profile view

### Version 7.0.2 (9/9/2024)

#### New Features and Improvements:

- FIXED: Enhanced weather briefing assumes TAS of 150 kts instead of actual cruise TAS
- FIXED: Airport tab button sometimes selected when Map tab is displayed
- FIXED: Map rendering speed is slow when connected to Internet
- FIXED: METAR information not shown on iPad if airport has nearby TFR
- FIXED: Performance and stability impacted by unintended Internet calls during flight
- FIXED: Significant memory leak can cause an app crash, typically during landing, when Procedure tab visible and ADS-B receiver in use

### Version 7.0.1 (7/21/2024)

#### New Features and Improvements:

- ADDED: Expand/collapse options for Navlog
- ADDED: Option of weather briefings with enhanced graphics
- ADDED: Separate TAC map layer
- ADDED: Background flight recording that continues even when the iPad lid is closed
- ADDED: APG NaviGuard to detect GPS anomalies and spoofing
- ADDED: Automatic downloading and adoption of consecutive navigational data sets
- FIXED: Faulty notification indicator on iPhone
- FIXED: Left/right arrows not visible for horizontal procedures
- FIXED: Flights Merge does not recalculate statistics correctly
- FIXED: Airport services information not always displayed in full

- 
- FIXED: Procedures disappear from the map after Direct To is selected
  - FIXED: TAFs incorrectly marked as out-of-date
  - FIXED: Change email or password not working
  - FIXED: Map rotates when setting is disabled
  - FIXED: ChartData cannot be deleted
  - FIXED: Lightning layer displays incorrect update time
  - FIXED: Inconsistent track and bearing to waypoints
  - FIXED: Fuel values displayed in lbs not gals
  - FIXED: Weather briefing disappears when you leave the Plans tab and then return

## Version 6.9 (3/22/2024)

### New Features and Improvements:

- FIXED: Crash when selecting Direct To to a waypoint
- FIXED: Crash on flight plan loading with some airports (e.g. KGDK)
- FIXED: Crash when manually adding multiple entries to the Flights tab with +
- FIXED: Various map-related crashes
- FIXED: Changes made to Flight details are not saved
- FIXED: Icing incorrectly changes view when zoom level is changed
- FIXED: FlyQ freezes on the Airport Diagram page after landing
- FIXED: After adding a web-based documents to Documents, the download never completes
- FIXED: The ADS-B distance ring does not move in some cases
- FIXED: ADS-B lightning does not appear in some cases
- FIXED: Dynon flight plan transfer does not work
- FIXED: Various text and data entry fields are invisible or hard to read if Dark Mode is used
- FIXED: Graphs and Reports disappear from the Flights tab if another tab is selected
- FIXED: The Sort feature in the Airports tab does not sort properly for Fuel or Weather
- FIXED: The Weather/Nearby and Airports/Weather tabs sometimes show overlapping text in the METAR and TAF areas
- FIXED: Changing the ETD for a Flight Plan often changes the selected aircraft
- FIXED: The Flights Merge function is very hard to discover (add a Merge icon)
- FIXED: Landing airport incorrectly pops up when changing the simulator
- FIXED: NavLog page doesn't use space efficiently

## Version 6.8 (3/5/2024)

### New Features and Improvements:

- ADDED: METAR/TAF opacity now adjustable
- FIXED: App effectively locks-up when an airport diagram pops up if Lock is on
- FIXED: Wind barb/arrow opacity does not change when adjusted in Settings
- FIXED: Multiple cases of the mapping engine crashing
- FIXED: Column titles on the Plans tab sometimes hard to read
- FIXED: App crash in certain cases when changing a flight plan via rubber-band
- FIXED: Occasional crash when switching from split to single screen mode
- FIXED: Crash with iOS 17 when rendering some graphic images
- FIXED: Occasional crash when turning the Digital map layer off
- FIXED: Aircraft selection sometimes changes when takeoff time changed
- FIXED: Winds On/Off toggle invisible when iOS Light mode is on
- FIXED: Crash when tapping a METAR or TAF text to see it larger after viewing multiple METARs or TAFs

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- FIXED: Text on certain weather graphic images is not aligned correctly
  - FIXED: FlyQ Online (web) Profile view no longer works
  - FIXED: Some small airports are missing fuel prices
  - FIXED: Freezing Level and Satellite images are out-of-date or missing in the Weather Gallery
  - FIXED: Multi-delete of flight plans fails
  - FIXED: The Analysis tab in Flights is blank
  - FIXED: The Detailed Logbook Report from the Flights tab sums page totals incorrectly
  - FIXED: Graphs generated from the Reports section do not appear

### **Version 6.7.1 (12/7/2023)**

#### New Features and Improvements:

- ADDED: Manual Merge of multiple Flights into one flight
- ADDED: Customizable Winds Aloft display. Choice of arrows or wind barbs.
- FIXED: Misc. fixes and performance improvements

### **Version 6.7 (1/8/2023)**

#### New Features and Improvements:

- ADDED: Manual Merge of multiple Flights into one flight
- ADDED: Customizable Winds Aloft display. Choice of arrows or wind barbs.
- FIXED: Misc. fixes and performance improvements

### **Version 6.6.1 (9/27/2023)**

#### New Features and Improvements:

- FIXED: Multiple bug fixes, including one common when the app is launched

### **Version 6.6 (8/21/2023)**

#### New Features and Improvements:

- ADDED: Choice of the current 3 color or standard 4 color METAR/TAF systems
- ADDED: Choice of arrows or standard wind barbs for Winds Aloft and Surface Winds
- CHANGED: Plates and Airport Diagrams are easier to read on the map.
- CHANGED: Auto Zoom temporarily disabled as we refine the feature.
- FIXED: Flight plan points added via rubber-banding are not always saved.
- FIXED: Display of ATL Class B on the Digital layer is not correct.
- FIXED: Bearing differs in the "Common" pop-up after scrolling

### **Version 6.5 (3/14/2023)**

#### New Features and Improvements:

- ADDED: VFR Runway selection
- ADDED: Auto Zoom to landing
- ADDED: Auto Center

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- ADDED: Mass Flight Plan delete
  - ADDED: Auto select of landing airport diagram
  - ADDED: Takeoff dates added to the Flight Plan list
  - ADDED: 3D Synthetic Vision now shows HITS boxes all the way to the landing runway
  - FIXED: Avidyne support does not work properly
  - FIXED: Numerous other fixes and performance improvements

### **Version 6.1.1 (10/14/2022)**

#### **New Features and Improvements:**

- FIXED: Track up mode does not work properly after pan or zoom.
- FIXED: Memory leak when using an ADS-B receiver

### **Version 6.1 (8/12/2022)**

#### **New Features and Improvements:**

- ADDED: Better battery life due to reduced CPU and memory load
- ADDED: Better map performance on newer devices due to a new mapping engine
- ADDED: Revised mapping engine
- FIXED: Numerous crashing and non-crashing bugs

### **Version 6.0 (7/12/2021)**

#### **New Features and Improvements:**

- ADDED: Digital Map dynamically adapts to map rotation so text is always right-side up
- ADDED: Global airports, nav aids, airways, fixes, and airspace
- ADDED: Global weather
- ADDED: Visual and audible (spoken) alert system warns when approaching controlled airspace
- ADDED: Flight plans now always synchronize between multiple devices and FlyQ Online
- ADDED: Add multiple tail idents to Ignore Tails, similar to the Buddy List
- ADDED: Map loading is significantly faster
- FIXED: Various bug fixes including: VSR gauge cannot be replaced, renewal pop-up missing Close button, and more

### **Version 5.0 (12/15/2020)**

#### **New Features and Improvements:**

- ADDED: The new Profile View helps you fly safer by viewing your position over terrain and airways. See and avoid poor weather with eight time-synchronized weather layers that show how conditions are expected to change during your flight: Winds Aloft, Cloud Tops, Ceilings, METARs and TAFs, Icing, Turbulence, and AIRMET/SIGMETs.

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## Version 4.6 (10/8/2020)

### Fixes / Changes:

- Critical iOS 14 fixes
- FIXED: Connectivity to Wi-Fi based ADS-B receivers inop
- FIXED: Connectivity to Dynon and AFS inop
- FIXED: Misc. minor color and other issues
- FIXED: Various crashing and non-crashing bugs and made performance improvements

## Version 4.5.2 (5/29/2020)

### New Features and Improvements:

- ADDED: Radar colors can be optionally displayed using colors ideal for those with color blindness
- CHANGED: The Tab bar at the bottom of the screen now much easier to read (iPad only)

### Fixes / Changes:

- FIXED: Radar and Timeline do not automatically advance as time passes when in pre-flight mode (works fine with ADS-B)
- FIXED: ADS-B crash when processing some Alaskan weather
- FIXED: ADS-B crashes in rare cases with SkyRadar and Dynon ADS-B receivers
- FIXED: Timeline does not always stay off after being manually turned off
- FIXED: METAR/TAF decoder does not handle some Visibility conditions
- FIXED: SA Airport Diagrams not always displayed properly on the Map
- FIXED: Multiple minor display issues on some iPhones
- FIXED: The Map button on the Plans tab does not always function
- FIXED: Obstacle layer does not restore after switching from 2D to 3D and back
- FIXED: New DAU type procedures (RNAV DP) do not always appear
- FIXED: Plans/Wind Optimizer improperly adjusts TAS
- FIXED: Rubber-banding a flight plan may not set the correct cardinal altitude
- FIXED: Ownship is not always suppressed as an ADS-B target even when the tail number is entered
- FIXED: Multiple minor display issues when using Dark Mode
- FIXED: Surface Winds arrow colors not consistent with the Legend in all places
- FIXED: Rare crash when tapping +FP
- FIXED: Searching for some airports by name fails
- FIXED: The Weather Status indicator sometimes shows the wrong color
- FIXED: Some Piper ICAO designations incorrect
- FIXED: Flights tab sometimes fails to show some flights
- FIXED: Airspace COMM frequencies missing in some cases
- FIXED: Gauge Bar items can overlap in some cases
- CHANGED: Slight revision to the Weather Legend to clarify that Cloud Tops may be cumulous cloud tops
- FIXED: Fixed various crashing bugs and made performance improvements

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## Version 4.5.1 (4/9/2020)

### Fixes / Changes:

- FIXED: Crash on Alaskan ADS-B radar
- FIXED: Crash when selecting certain SIDs or STARs
- FIXED: Crash when selecting a Flight without a track
- FIXED: Crash if Camera is not enabled in AR view
- FIXED: PIREP date display not formatted correctly
- FIXED: Icing layer does not refresh correctly on some Timeline movements
- CHANGED: Legend improved to clarify AGL vs MSL and simplify Cloud Bases range
- FIXED: HITS boxes not always displayed properly in 3D view
- FIXED: Traffic ring does not move unless ADS-B traffic is present

## Version 4.5 (3/20/2020)

### New Features and Improvements:

- ADDED: Multiple new weather layers from the Internet including Lightning, Cloud Tops, Cloud Bottoms, Icing, Turbulence, Surface Analysis, Surface Winds, and PIREPs
- ADDED: Support for new ADS-B weather products: Lightning, Icing, Turbulence, Cloud Tops, and PIREPs
- ADDED: Timeline to see how weather has changed in the past or is expected to change in the future
- ADDED: Altitude Slider to see how weather changes at different altitudes
- ADDED: Flyway Charts for VFR flying

### Fixes / Changes:

- FIXED: Multiple iOS 13 related issues
- FIXED: METAR translation issue with certain weather phenomena
- FIXED: Misc. other fixes and improvements

## Version 4.0.1 (9/16/2019)

### Fixes / Changes:

- FIXED: About 50 crashing and potentially crashing bugs
- FIXED: Avidyne: Multiple issues: Sending flight plans from FlyQ EFB -> to the IFD, IFD -> FlyQ EFB, and general connectivity problems.
- FIXED: Plans: While offline, edits to flight plans do not save
- FIXED: Documents: List is empty if app started while not connected to the Internet
- FIXED: Flights: Various problems with + to add a new Flight entry
- FIXED: Flights: Manually entered or imported log book entries appear to have the wrong date in Flight Details
- FIXED: Slingshot: Inop
- FIXED: 3D: "Tape" display for both Alt and GS does not show correct data in some cases
- FIXED: iPad Pro 12.9 inch: Various layout and crash issues
- FIXED: iPhone: Various layout issues
- FIXED: iPhone: Issues selecting and entering Search and Rescue patterns

- FIXED: iPhone: Adding a Layover makes it impossible to select items on the bar below the Plan summary area
- FIXED: Plans: In Plans/Edit, the + button does not add new line fillers between all existing points
- FIXED: Plans: Changing the default Pilot is not reflected when creating a new flight plan
- FIXED: Plans: Reversing a flight plan in some cases causes a blank flight plan
- FIXED: Plans: Crash when editing the name of an entry in the NavLog if the name is a lat/lon point
- FIXED: Plans: Fixes and navaids not properly added to the flight plan when idents are not unique (i.e. same ident used in US and Mexico)
- FIXED: Map: Switching from Split to Single screen Landscape may confuse the Map gauge bar in certain cases
- FIXED: Map: Map layers do not all properly initialize if turned on when app starts
- FIXED: Map: Map orientation may change from North Up if you jump the map to a new position such as an airport
- FIXED: Map: 2D Map Layers will not be saved properly if the app closes while in 3D mode
- FIXED: Documents: Various problems with adding Documents not in the Library (photos, URLs, etc.)
- FIXED: ADS-B: Connecting to a Bluetooth ADS-B receiver does not automatically turn on the Traffic layer
- FIXED: ADS-B: Rare case of ADS-B target appearing on the ground when actually in flight
- FIXED: Wx: METAR translator does not handle the case of temp w/o dew point and "in the vicinity" correctly
- ADDED: Flights: Recorder now remembers the type (SEL, MEL, SES, etc.) of the default aircraft when adding new flight records
- ADDED: Flights: Remarks shows full screen details on tap to accommodate long text entries
- FIXED: Flights: Multiple problems with Like pop-up
- FIXED: Flights: Various scroll position/sorting problems in the Flights list after an edit or sync
- FIXED: Flights: Swiping left on a line item in Data incorrectly shows Delete
- FIXED: Flights: Comments and Likes do not always appear
- FIXED: Flights: Changing flight date not obvious (is white when should be blue in Edit mode)
- FIXED: Flights: Changing flight date does not work all the time
- FIXED: Flights: Changed flight date not represented corrected on the flight details page nor sorted correctly in the list
- FIXED: Flights: Sizing and cropping a Profile image does not always work correctly
- FIXED: Flights: Changes to a Profile image do not always save
- FIXED: Airports: Surface wind arrows are not consistently shown using the user's selected units (i.e. MPH vs kts)
- FIXED: Airports: The "star" (Favorites) icon in Airports is always blue (on) even when not a favorite
- ADDED: Settings: New switch to enable/disable showing the "Send to Aspen" option in the NavLog
- FIXED: Sim: Turning the Sim off causes a minor UI problem when playing a Flight

## Version 4.0 (7/19/2019)

### New Features and Improvements:

- ADDED: Visual Logbook
- ADDED: Introducing **Flog**, the private, pilot-only social network
- ADDED: Endorsements between CFIs and student pilots

### Fixes / Changes:

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- ADDED: Notifications on some user events and general events
  - ADDED: Users can select the width of the Track line
  - ADDED: Added aircraft info for Topaz KR-30, Vashon Ranger, and Beech BT36
  - CHANGED: Made user email/password read-only in Settings and requires a Logout to change
  - FIXED: Runs out of memory during ChartData Updates
  - FIXED: Various problems with ChartData updates
  - FIXED: Maps may be blurry even if downloaded if they are expired
  - FIXED: Crash with uAvionics ADS-B receivers after firmware update
  - FIXED: A rare crash with the Stratus 3
  - FIXED: iPhone: Multiple problems if the tab order is changed
  - FIXED: Arithmetic overflow error when creating some flight plans
  - FIXED: Display not optimal for iPad Pro
  - FIXED: Using +WPT while rubber-banding a flight plan causes various problems
  - FIXED: Several problems with flight recorder playback
  - FIXED: Flight recorder often breaks one flight into many pieces and other problems
  - FIXED: Helicopter filter inconsistent
  - FIXED: Crash on entering personal waypoints in some cases
  - FIXED: Flight Recorder starts even when auto-record is off
  - FIXED: Sports TFR text out of date
  - FIXED: FlyQ EFB Online rubber-band feature does not always work
  - FIXED: FlyQ EFB Online A/FD documents do not always appear

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# Getting Started

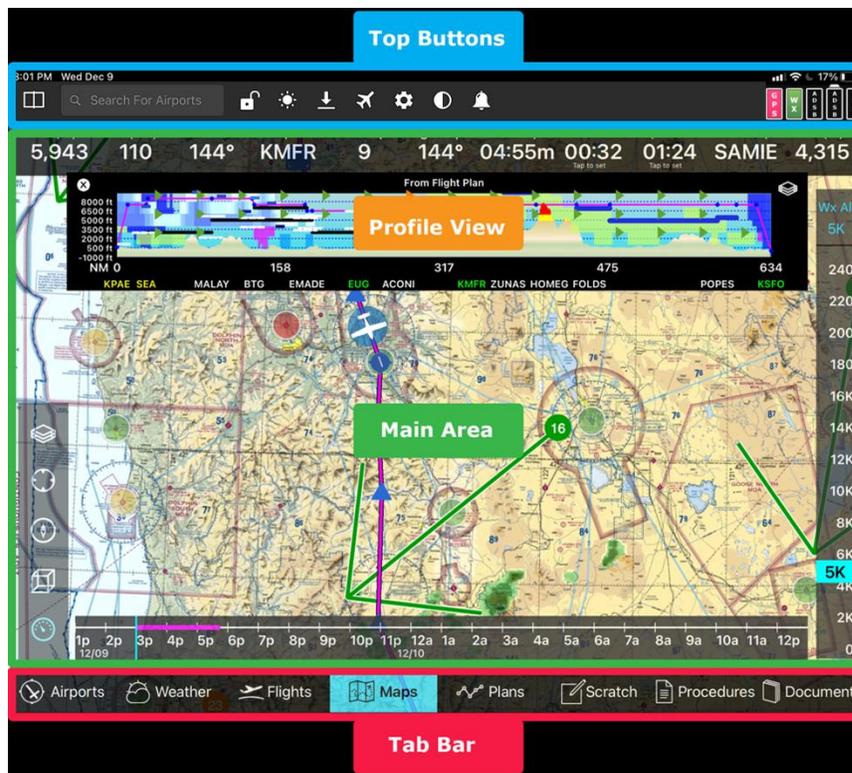
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## Introduction

FlyQ+ EFB is the powerful aviation app where ease of use and quick access to information are the primary design goals. The idea is to keep you safe by minimizing the time you spend looking at the iPad and maximizing the time you spend looking out the windscreen. In other words, *fly the plane, not the iPad*.

Our license agreement allows you to use FlyQ+ EFB on as many devices as you personally own and use, so you can install it to both your iPhone and iPad and use FlyQ+ EFB Online from your PC or Mac (<https://FlyQ.seattleavionics.com>). Be sure to log in to all FlyQ+ EFB apps, on all devices, with the same email and password or the system will not recognize you. Most app settings, as well as flight plans, documents, and personal waypoints, are automatically synchronized between all your devices.

## The Big Picture



### Top Buttons

The buttons at the top of FlyQ+ EFB remain constant to give quick access to commonly used functions at all times. These include **Search**, **Split Screen** (iPad only), **Settings**, etc.

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## Tab Bar

The tab bar at the bottom of the screen shows the major functional areas of the app: [Airports](#), [Weather](#), [Flights](#), [Maps](#), [Plans](#), [Scratchpad](#), [Procedures](#), and [Documents](#). Tap any tab to see the type of info you want.

By default, the tab bar automatically hides after 6 seconds to leave more screen space for information. Tap anywhere on the screen to show the tab bar. If you prefer, you can turn the autohide feature off in **Settings** so that the tab bar is always shown.

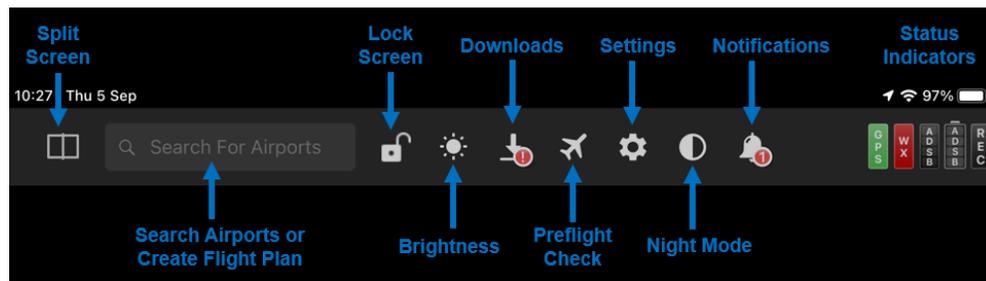
If you're using split-screen mode (described below), each side of the screen has its own tab bar.

## Main Area

The bulk of the screen is filled with the type of information you select from the tab bar.

## Top Buttons

### On an iPad:



### On an iPhone:



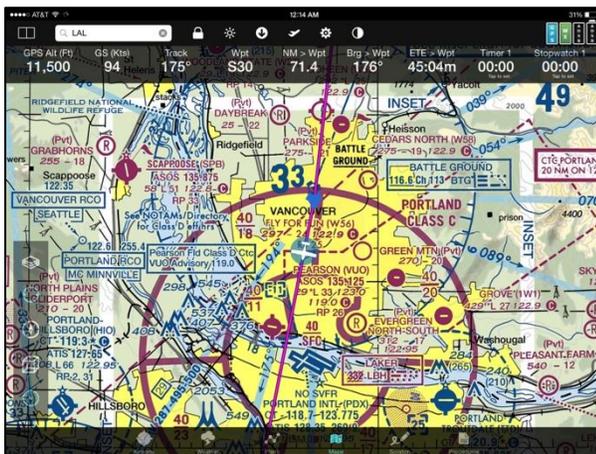
- **Split Screen:** FlyQ+ EFB lets you show everything on one simple screen or split the screen into two different views. Tap to toggle between single and split view. **Note:** This feature is only available on the iPad due to the screen size limitations of the iPhone.
- **Search:** Find information about any airport, navaid, or fix by entering its ident or name. Even enter a complete flight plan. **Note:** On the iPhone, this field expands when you tap into it and contracts when you tap out of it.
- **Lock Screen:** Turn on to stop accidental taps to the screen from doing anything. Also locks the iPad/iPhone into the current orientation (landscape or portrait). The icon color is red when the lock is engaged.

- **Brightness:** Tap to change the screen brightness and control the transparency of the **Radar**, **Procedures**, and other weather layers on the map. **Note:** Not shown on the iPhone due to screen size limits. Also available from the **Settings** screen.
- **Downloads:** Downloads maps, plates, digital data, etc. on a regional basis. Also shows expiration dates for current subscriptions.
- **Preflight Check:** Quickly checks for current data along your flight and downloads just the data you need for it.
- **Settings:** Controls various options for the product and gives links to Help information.
- **Night Mode:** Changes map and procedure colors from white to black to help preserve night vision.
- **Notifications:** Alerts you when someone wants to follow your flights or comments on/likes your flights, when new ChartData or new app versions are available, and more.
- **Status Indicators:** Uses colors to indicate the status of your GPS, the age of your weather, the status of your ADS-B system, the battery level of your ADS-B system (if applicable), and whether or not the flight is being recorded. Tap any of the indicators for more detailed information.

## Single Screen and Split Screen

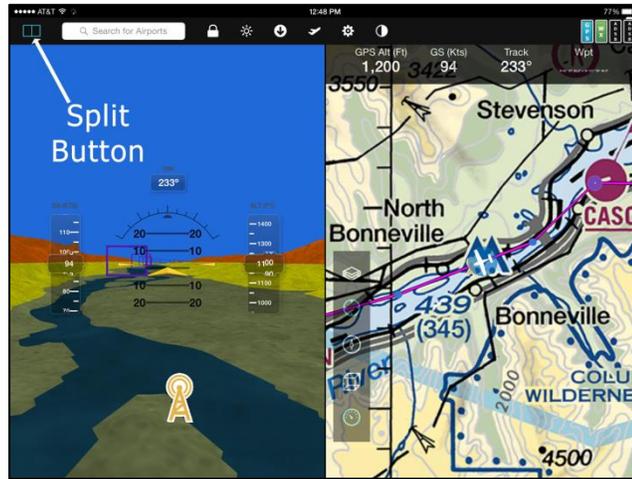
The iPhone has a relatively small screen, so the app always shows just one content area; the iPad's screen size provides room to work in either single or split screen modes.

### Single Screen



### Split Screen

You can use split screen view to display a map and airport info, a map and an approach procedure, two maps (perhaps different scales or one IFR and one VFR), and much more. Tap the icon at the upper left corner of the screen to switch back from split to single screen.



## iPad Versus iPhone

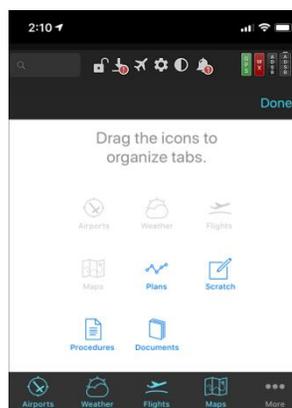
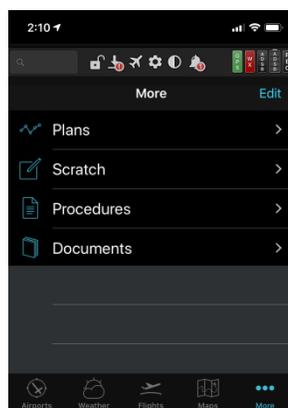
FlyQ+ EFB runs on both the iPad and the iPhone. The same app runs on both the iPad and iPhone and adapts to each device. Search for *FlyQ+ EFB* in the **App Store** app on your iOS device to download the app regardless of the device you're using.

Functionally, the behavior of the app is identical on each device except that the iPhone version lacks the split-screen feature of the iPad version (due to the smaller screen size), and the iPhone version works in portrait mode only (the longest screen dimension is always vertical). Certain features work slightly differently on the two devices but the differences are usually very minor. We also use shorter labels for features on the iPhone in some places so they fit on the smaller screen. This guide generally uses screenshots from the iPad version of the app except where the iPhone version looks materially different.

Not all tab bar items (**Airports**, **Weather**, **Flights**, **Map**, **Plans**, etc.) fit on the smaller iPhone screen. Some are accessed by tapping the **More** tab. To compensate, on the iPhone (only) you can select the tabs that are displayed:

1. On the **More** tab, tap the **Edit** button.  
Tabs not currently displayed on the screen are shown in the white area.
2. Drag tab icons that you want the app to display on to the tab bar at the bottom of the screen.
3. Tap the **Done** button.

You can also change the order of tabs on the tab bar by sliding them left or right.



## Map Types

The most obvious use for an aviation app is to display a map (chart) and show your current position over it. Of course, FlyQ+ EFB does that, but it also does much more because it doesn't have just one map, it has three distinct types of maps: *2D*, *3D Synthetic Vision*, and *Augmented Reality (AR)*.

### 2D

This is the standard map that is familiar to most people. It's like looking at your choice of standard paper charts (VFR, IFR Low, IFR High, etc.).

### 3D Synthetic Vision

As the name implies, the Synthetic Vision view is a completely synthetic (computer-generated) image of the world that is derived from databases and position sensors. It simulates looking out of the aircraft's windscreen.

### Augmented Reality (AR)

Augmented reality is a recent concept FlyQ+ EFB which blends a live video feed from your iPad or iPhone camera with computer-generated overlays. In particular, FlyQ+ EFB shows where airports are by overlaying airport markers on the video feed. As you move the iPhone or iPad around the cabin and point it out of the window at different areas, FlyQ+ EFB overlays the airports visible in the video feed. This is especially useful when flying at night, in poor weather, or in unfamiliar areas.

You can find much more information about [maps](#) starting on page 38.

### Selecting a Map Type

All three of these map types are accessed from the **Map** bar at the left side of the map screen.

- Tap the  button in the Map bar.  
The map type switches from 2D to 3D to AR with each tap.

If you prefer, you can remove one or more of the map types from the switching sequence in the app **Settings** (tap the  icon at the top of the screen). For example, if you never want to use AR, set the **Map modes** switch in **Settings** to *2D, 3D*.

## Status Indicators

The upper right area of the screen shows critical device and data status and aging information.



These five indicators use colors to tell you (from left to right):

- The status of your GPS.
- The age of the weather information you're viewing.
- The status of a connected ADS-B system (if applicable).
- The battery status of a connected ADS-B system (if applicable).
- Whether or not your flight is being recorded.

As elsewhere in FlyQ+ EFB, *green* means good, *yellow* means marginal, and *red* means there is a problem.

Tap anywhere on the status indicator to see additional information about GPS, Weather, ADS-B, or flight recording. It does not matter which specific indicator you tap. Once the detailed page appears (shown below), tap the large **GPS**, **Weather**, **ADS-B**, or **Flight Recorder** cells on the left side of pop-up for more details about each system.

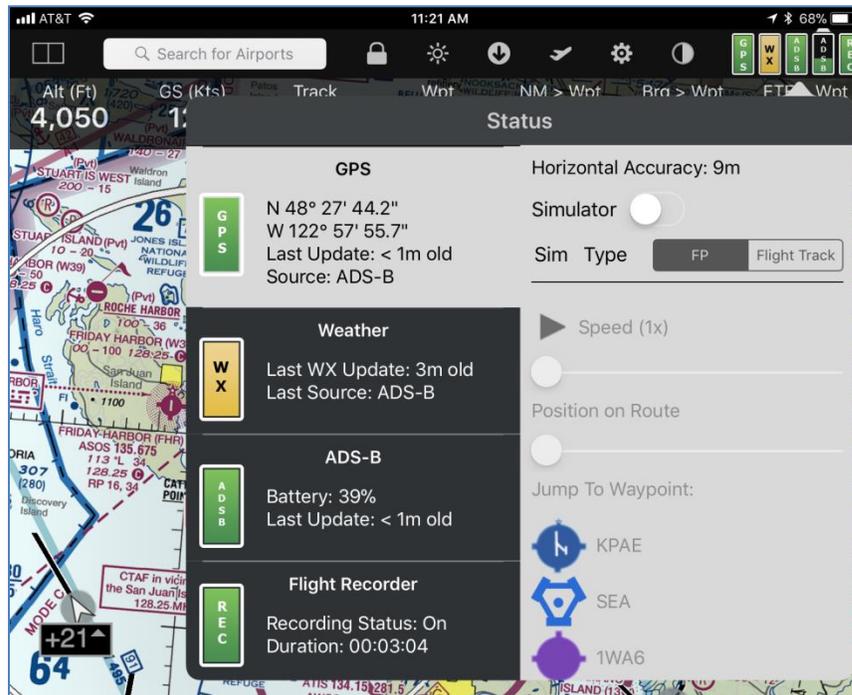
### Notes on Status Indicators:

These indicators are designed to quickly alert you to problems, so we're careful to only use red when an actual problem occurs. For example, the lack of an ADS-B receiver does not turn the ADS-B indicator red; instead, the ADS-B indicator only turns red if an ADS-B system which was connected suddenly disconnects. In cases where no ADS-B has been connected, the ADS-B icon remains clear.

Similarly, if an ADS-B system is connected but it has no integrated battery (Merlin, Stratux, FreeFlight, L-3 Lynx, SkyRadar, etc.), the ADS-B battery indicator is clear or green rather than red.

The recording status indicator is clear when no recording is taking place because lack of recording is not generally a problem that requires immediate attention.

## GPS



iPads and iPhones have been known to lose the GPS lock in flight. This display gives you a quick indication of whether or not the GPS is engaged and working as expected:

- *Green* means the GPS is working properly and providing data with a high degree of accuracy.
- *Yellow* indicates that a GPS is connected but the accuracy is marginal.
- *Red* means a GPS is either not connected or has not provided a position update in the last 60 seconds.
- *Blue* indicates that you're using the GPS simulator.
- *Purple* (rarely seen) means you're using an ADS-B receiver but the GPS feed is coming from a different source such as the iPad/iPhone's internal GPS or a separate GPS.

This display also allows you to engage the built-in GPS [simulator](#) (see page 30).

**Note:** The **Source** will show as *iPad (or iPhone) / Bluetooth* when you're using an external Bluetooth GPS because the GPS is working at the operating system level rather than with a direct connection to FlyQ+ EFB. The GPS tells the operating system the location and the OS provides that location to FlyQ+ EFB without specifying if the source was an external GPS or the device's internal GPS. This does not apply to ADS-B sources because FlyQ+ EFB directly connects to them.

## Weather



Weather information is critical when flying and you need to know the age and source of the information to make decisions. This display immediately shows the age and source of each weather product. Weather is downloaded from the Internet every 4 minutes and cached on the iPad/iPhone for use during flight. The color of the indicator shows the age of the weather information (at least METAR/TAF, Winds Aloft, and Nexrad) as follows:

- *Green* means the information has been updated within the past 60 minutes.
- *Yellow* means the information is 1-4 hours old.
- *Red* means the information is more than 4 hours old.

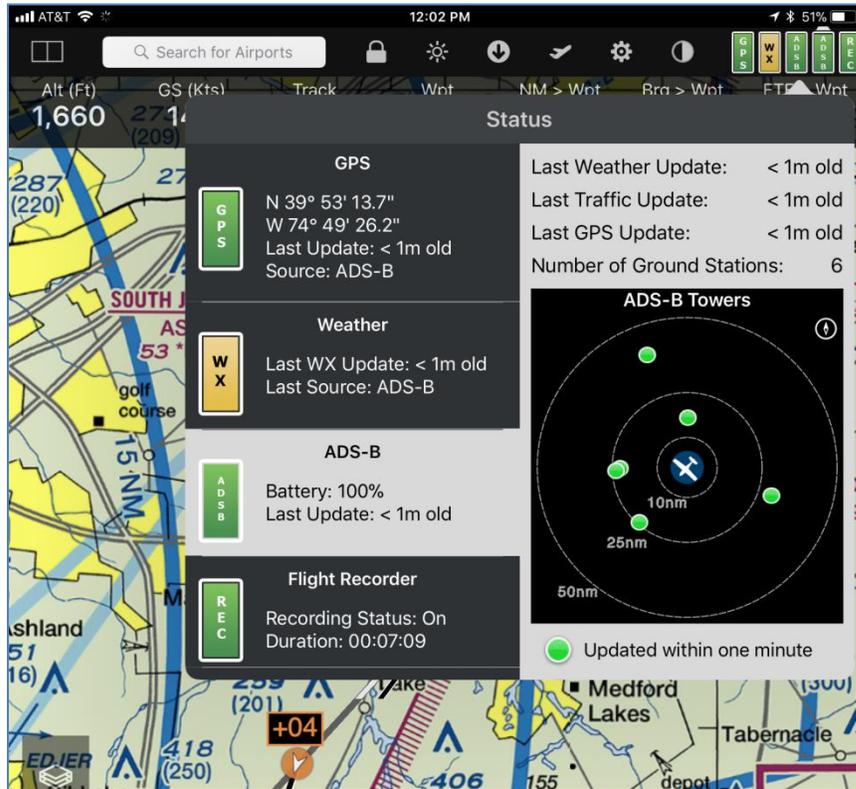
**Notes:** An ADS-B system does not receive all the same data as FlyQ+ EFB gets from the Internet. Specifically, Satellite is not available in the ADS-B data feed. AIRMET/SIGMET data is in the ADS-B feed but FlyQ+ EFB does not currently process it. This means that the sample display above shows everything working as designed.

FlyQ+ EFB provides in-flight weather updates when using one of our supported ADS-B receivers. These currently include the Stratus 3, Merlin, Stratux, uAvionics devices, the Dual XGPS 170 and 190, L-3 Lynx, SkyRadar DX, SkyRadar L, SkyRadar D2, all iLevel ADS-B receivers, FreeFlight RANGR, BendixKing, and many more receivers.

The Stratus 1S and 2S are not supported by FlyQ+ EFB because they were designed exclusively for ForeFlight.

You can find more information on [weather](#) in FlyQ+ EFB starting on page 116.

## ADS-B



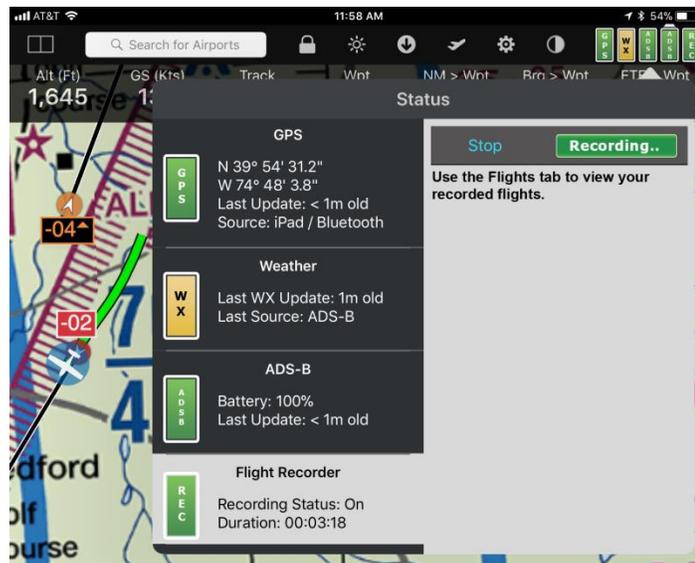
FlyQ+ EFB displays a wealth of information about connected ADS-B systems. This includes the time of the last update for GPS, weather, and traffic, the number of ground stations, the relative position of received ground stations, type of system connected, and software version and serial number when applicable.

**Note:** The lack of an ADS-B receiver does not turn the ADS-B indicator red. Instead, the indicator only turns red if an ADS-B system that was connected suddenly disconnects. In cases where no ADS-B has been connected, the ADS-B icon remains clear. Similarly, if an ADS-B system is connected but it has no integrated battery (Merlin, FreeFlight, SkyRadar, L-3 Lynx, Stratux, or NavWorx) the ADS-B battery indicator is green rather than red.

You can find more about [how FlyQ+ EFB works with ADS-B devices](#) starting on page 138. The [settings for ADS-B](#) are described on page 168.

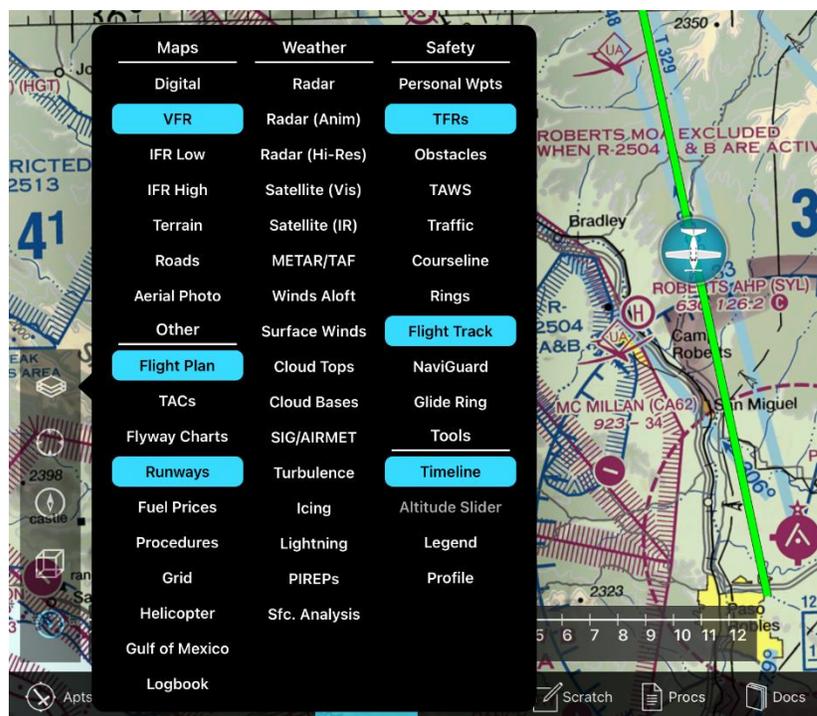
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## Flight Recorder



By default, FlyQ+ EFB automatically records your flights. These flights are available for review in the **Flights** tab. From there, you can playback your flights in FlyQ+ EFB itself or in systems like Cloud Ahoy or Google Earth, analyze your flights with graphs, quickly post graphical summaries to Facebook or Twitter, and email GPX tracks that your friends and flight instructors can view in FlyQ+ EFB or Cloud Ahoy. You can even share, add comments, and Like flights that your friends make with the integrated [Flog](#) pilot-only private network (see page 176).

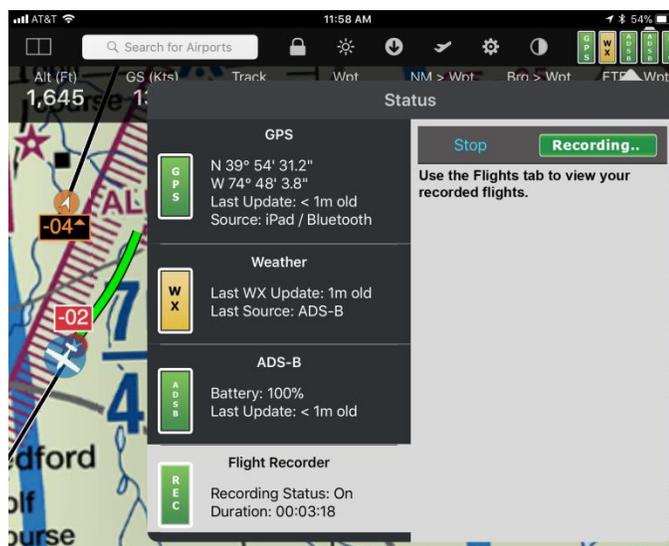
FlyQ+ EFB includes a map layer called **Flight Track** (also known as “breadcrumbs”) that shows where you have flown. When it’s turned on, the app draws your track as a green line on the map.



FlyQ+ EFB records your GPS position and altitude once per second. It does not record AHRS (yaw, pitch, and roll) information. The Flight Recorder does not require any specific hardware as it uses any GPS connected to your iPad or iPhone (including the internal GPS from an iPhone or some iPads), the GPS feed that is part of most ADS-B receivers, or the GPS feed from an in-panel system such as Dynon SkyView, AFS, or Avidyne.

**Note:** FlyQ+ EFB will continue recording your flight even if you sleep your device or close its lid. **However, be sure that the recording starts (REC status indicator turns green) before sleeping the device.** The recording begins after detecting a speed of at least 45 knots for five consecutive one-second samples.

The summary portion of the **Flight Recording** tab (on the left side) shows whether recording is on or off and how long it has been recording (3 minutes 18 seconds in the example below). When tapped, the screen shows a control to manually turn the recording on or off.



### Start and Stop Recording

Automatic recording starts when your speed exceeds 45 kts for five seconds and ends when it goes below 20 kts for 30 minutes. It will also end if the app doesn't see a GPS update for 50 seconds.

**Note:** Automatic recording can be disabled in [Settings](#) (page 164), in which case you can still record flights manually for use in the visual logbook. Recordings are stored on your device and in our cloud system. You can adjust your privacy level by going to the **Flights** tab and tapping **Profile**. See [The Flog Network](#) section starting on page 176 for more details.



The top of the details portion (right side) has controls for a manual **Start** or **Stop**, depending on whether a recording is in progress or not, as well as an indication of recording status. In the example above, **Stop** is displayed rather than **Start** because a recording is already in progress.

**Note:** If automatic recording is enabled, tapping the **Stop** button will stop recording until the app believes you have landed. At that point, taking off again will start a new recording. If automatic recording is disabled, the **Start** and **Stop** buttons only control the recording in the app.

FlyQ+ EFB names each flight based on when the flight starts (e.g., *Morning Flight 01/24/2018*) and attempts to calculate the takeoff and landing airports (the **From** and **To** fields). These can be edited from within the **Flights** tab by selecting the flight then tapping the **Edit** button.

---

## Built-in Simulator

Perhaps the best way to learn about the product before you fly with it is to use the powerful built-in FlyQ+ EFB simulator. This can either “play” a flight plan or playback an actual recorded flight. The simulator works with both 2D and 3D maps.



To simulate a planned flight:

1. Load or create a flight plan.
2. Tap the **GPS** status indicator in the upper right corner of the screen.
3. Slide the **Simulator** switch to the right, then watch the flight begin.  
You can speed up the flight or jump immediately to any point in the flight by either time (the **Position on Route** slider) or by selecting a specific waypoint (the **Jump to Waypoint** button).

To playback a flight track:

1. Go to the **Flights** tab and tap the blue **Play** triangle for the desired flight.
2. Tap the **GPS** status indicator to control playback speed or use the **Position on Route** slider to move to any point during the flight.  
The **Jump to Waypoint** feature is not available for a recorded flight.

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**Tip:** For even more realistic training, connect FlyQ+ EFB to X-Plane, Microsoft Flight Simulator, or Prepar3D. See [External Devices and Applications](#) on page 131 for more information.

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## Downloading Data

Downloading data is not the most exciting part of flying but FlyQ+ EFB makes it painless.

## Preflight Checklist

With the Preflight Checklist, FlyQ+ EFB checks your iPad or iPhone before flight to ensure that you're ready to fly. The app confirms that you have the VFR and (if

applicable) IFR data for the states covered by your flight plan. If you don't have a flight plan loaded, the feature uses the GPS to confirm data for your current location. In addition to data, the Preflight Checklist also checks the status of your GPS, shows you the age of the weather, and more.

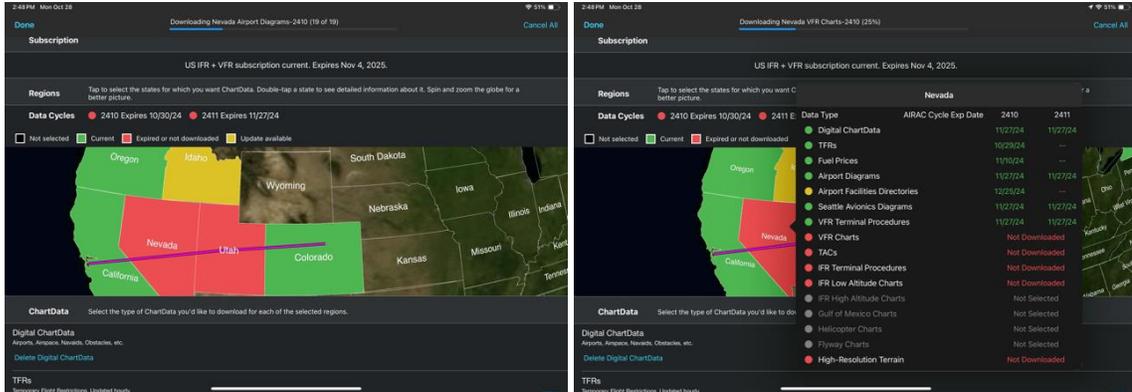
Activate the Preflight Checklist by clicking  in the top bar of the app.



## Monthly ChartData

FlyQ+ EFB also makes downloading monthly data as fast and easy as possible. Simply tap  in the top bar of the app, spin and zoom a 3D globe to visually select the states you're interested in, and tap **Update Now**. FlyQ+ EFB downloads incredibly fast because it downloads just the new information each month, not all data. As most aviation data remains the same every month, this feature alone can save you hours.

States with current data are green, those with expired data or where data has never been downloaded are red, and yellow indicates that an update is available. Tap a state to select or deselect it. Double-tap a state to see detailed information per data cycle for that state.

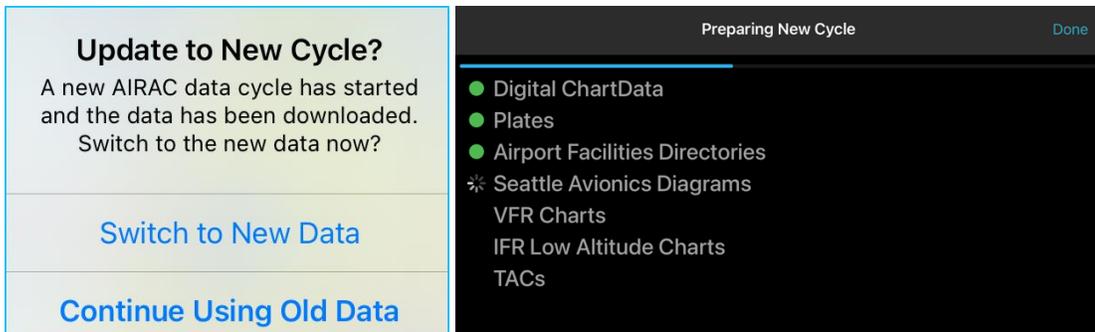


A unique and very helpful feature is the magenta flight plan line superimposed on the ChartData Manager map. This clearly shows which states your plan will cross and makes it easy to ensure you don't forget to download data for states on or near your route.

**Note:** The first download takes longer because FlyQ+ EFB will download high-resolution terrain data. This is generally not downloaded again.

### Updating Data

FlyQ+ EFB downloads data for the next data cycle in advance, and will then automatically prompt you to use this data when it becomes valid. This means you will never be 'caught out' by a lack of valid data. You can choose to continue using the old data if you want.



The ChartData section below the map lists all the available ChartData products (e.g. *Airport Diagrams*, *VFR Charts* (Sectionals), *IFR Terminal Procedures*, etc.). Tapping **Update Now** causes FlyQ+ EFB to download all the types of ChartData selected for all the states selected. ChartData that is current and already downloaded (green on the map) will not be downloaded again, only data for red or yellow states.

Deselecting a state for which ChartData is already downloaded does not erase that data from your iPad/iPhone; it just tells FlyQ+ EFB not to update it again in the future.

---

**Tip:** While there is no way to delete all the data for a given state, you can delete all the data of a given ChartData type. For example, most of the larger ChartData products have a **Delete** button next to them so you can, for example, delete all the *VFR Charts* or all the *IFR Terminal Procedures*. If you then deselect some states and tap **Update Now**, the VFR Charts or IFR Terminal Procedures will be downloaded again but only for the states that remain selected.

---

## Storage Considerations

FlyQ+ EFB can use as little as 1 GB of storage or up to 25 GB of storage depending on which regions you select and what kind of data you need. Only download data for regions that you regularly fly over to reduce the chance of running out of storage capacity. Keep in mind that some regions are much larger than others. For example, Alaska alone consumes about 20-25% of the total data space required for the entire United States.

The **High-Resolution Terrain** is only used for the 3D synthetic vision; the **Low-Resolution Terrain** is used for TAWS, the AGL gauge, and Terrain X-Ray. If you don't plan to use the 3D feature of the app, you can save approximately 50% of the total data space by deselecting **High-Resolution Terrain** but we very strongly suggest keeping the **Low-Resolution Terrain** option selected.

## Coverage Limitations

FlyQ+ EFB has some VFR and IFR maps for Southern Canada, the Caribbean, Mexico, and the Gulf of Mexico. It has approach plates and airport diagrams for Mexico, most of the Caribbean, Belize, Honduras, Nicaragua, El Salvador, Guatemala, Costa Rica.

The Seattle Avionics Airport Diagrams currently cover the lower 48 US states.

## Approach Plate Dates

The FAA prints two dates on the side of each plate. Although they look like expiration dates, they are not. They simply represent the print cycle of when that plate was last printed by the FAA. That is, even if a plate doesn't change for two years, every 28 days, it will have a new set of dates on the side. FlyQ+ EFB ignores these dates and uses a database that the FAA publishes to download only the plates that really have changed or been added. Thus, even when all your plates are current, you may see 'old' dates on the side. Refer to the [troubleshooting guidance](#) on approach plates on page 36 for further information.

You can tell FlyQ+ EFB to download all plates, even the ones that have not changed, but we strongly recommend against this because it dramatically increases monthly update time.

---

## Suggested Preflight Setup

Before you fly, we suggest the following as a way to make sure that other apps aren't using memory which could affect FlyQ+ EFB.

1. Reboot your iPad or iPhone:
  - Press and hold the **Power** switch (on the side or top of the device) and the **Home** button (on the front) for a few seconds. If you do this correctly, the device will shut down immediately with no further prompts.  
**Note:** For the iPhone X or later, press and hold the **Power** button and the **Volume Down** button at the same time.
  - After the device switches off, press the **Power** switch again to restart the device.
2. Restart FlyQ+ EFB:
  - Press the **Home** button on the device (the one physical button on the front) to get to the home screen.
  - Double-press the **Home** button to bring up the list of running apps at the bottom of the screen. You should see FlyQ+ EFB.
  - Find the "card" that shows FlyQ+ EFB and swipe it up, as if you were flicking something away. This closes FlyQ+ EFB.
  - Press **Home** again to hide the list of running apps.
  - Start FlyQ+ EFB again by tapping its icon.

Then, if you're using an external ADS-B or Bluetooth GPS (like the Dual 150/160, Bad Elf, or Garmin GLO):

3. Turn **Airplane Mode ON** to disable all wireless features.
4. Turn just **Bluetooth ON** for a GPS or turn just **Wi-Fi ON** for most ADS-B units (except the Dual XGPS 170 or 190 which use Bluetooth).
5. For a Wi-Fi based device, connect to the Wi-Fi network with a name like your device. For a Bluetooth device, ensure that the iPad/iPhone is paired with the device.

## Troubleshooting

### FlyQ+ EFB cannot find my current location

When you first run the app, the operating system asks if you want to allow FlyQ+ EFB to use **Location Services**. If you select **No**, the app is not able to access the GPS. You can check and change this setting if necessary:

1. On the iPad or iPhone, tap the **Settings**  icon.
2. Tap **Privacy**.

- 
3. Tap **Location Services**.
  4. Ensure that **Location Services** is *ON*.
  5. Find **FlyQ+ EFB** in the list and make sure the switch is *ON*.
  6. Start the app.

If there are still problems, then completely shut down the app and restart it on your device.

### Wi-Fi, Bluetooth, or GPS Problems

1. Confirm that your iPad/iPhone has Wi-Fi or Bluetooth on as required.
2. Confirm that the ADS-B or GPS device is on.
3. If it's a Dual XGPS unit, make sure the data format setting on the device is set to *Apple* (XGPS 150/160) or the Dual XGPS 170/190 is set to *ADS-B* not *GPS* mode.
4. If the ADS-B receiver has any antennas, make sure they are tightly connected.
5. Reboot your iPad or iPhone:
  - Press and hold the **Power** switch (on the side or top of the device) and the **Home** button (on the front) for a few seconds. If you do this correctly, the device will shut down immediately with no further prompts.  
**Note:** For the iPhone X, press and hold the **Power** button and the **Volume Down** button at the same time.
  - After the device switches off, press the **Power** switch again to restart the device.
6. Reset your iPad or iPhone's network settings:
  - a. Go to the **Settings** app on your iPad/iPhone.
  - b. Select **General**.
  - c. Select **Reset**.
  - d. Select **Reset Network Settings** but be aware that the iPad/iPhone will forget any Wi-Fi passwords so make sure you know them!

If these steps do not solve the problem, please email [Support@seattleavionics.com](mailto:Support@seattleavionics.com) or contact your device manufacturer.

### How do I find the chart or map legends?

The **Documents** tab includes both a general *Sectional and TAC Legend* and margin notes for all Sectionals. The general legend is loaded by default. To see Margin Notes for a Sectional, tap the **+** button and choose **Add Document**. They are all listed in the FAA VFR Charts category.

Display a legend for weather symbols and colors by tapping the **Layers**  button on the map then tapping the **Legend** selection.

---

## My approach plates are expired!

If you're checking for valid dates of the plate by looking at the side of the plate, you're being misled. The FAA prints two dates on the side of each plate. Although they look like expiration dates, they are not. They simply represent the print cycle of when that plate was last printed by the FAA. For example, even if a plate doesn't change for two years, every 28 days it will have a new set of dates on the side.

FlyQ+ EFB ignores these dates and uses a database that the FAA publishes to download only the plates that really have changed or been added. Therefore, even when all your plates are current, you may see some 'old' dates on the sides. You have to keep in mind that, unlike IFR enroute charts or Sectionals, there is no planned expiration date for a plate, they are only updated when necessary, so it's not possible for the FAA to print an expiration date on a plate since they have no idea when it might expire.

Plates do have revision information on them in the lower left corner, however. This remains constant even when the date on the side changes (unless the plate really was changed, of course) but it's hard to decode as it sometimes involves what's called a Julian date. Moreover, unless you know for sure what the "current" revision information is, it doesn't help you much as there is nothing to compare it to. We all just have to rely on the FAA accurately marking plates when changed. The good news is that we've been doing this for 10 years and we've never seen them make a mistake about this.

Finally, in the **ChartData Manager**, you can tell FlyQ+ EFB to download all plates, even the ones that have not changed. However, we strongly recommend against this because it dramatically increases monthly update time.

## Personal Waypoints do not appear on the map

Tap the **Layers**  button on the map and be sure the **Personal Wpts** map layer on. The **Personal Wpts** layer is not automatically turned on when a Personal Waypoint is created.

## Traffic does not appear on the map although an ADS-B receiver is connected

Tap the **Layers**  button on the map and be sure the **Traffic** map layer on.

## The map is very dark

Make sure that **Night Mode** is off. Night mode is controlled with the  button on the top of the screen.

Tap the **Layers**  button on the map and ensure that **Satellite** is off.

---

## The map is red or yellow

Tap the **Layers**  button on the map and ensure that **TAWS** is off if you're not flying.

---

**Tip:** You can disable TAWS when not flying, regardless of whether or not the map layer is on, via the **Only show TAWS when moving** setting.

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## Something else is wrong

1. Reboot your iPad/iPhone and restart FlyQ+ EFB (follow steps 1 and 2 of the [Suggested Preflight Setup](#) on page 34).
2. Remove and re-install FlyQ+ EFB by following the steps below.

**Note:** Do this only as a last resort because it will delete any data that you've already downloaded.

- a. Press the **Home** button on the device (the one physical button on the front) to get to the home screen.
- b. On the Home screen, find the FlyQ+ EFB app icon.
- c. Press and hold the FlyQ+ EFB app icon until it wiggles.
- d. Press the **X** now appearing on the icon to remove the app.
- e. Confirm you wish to delete by tapping the **Delete** button.
- f. Press the **Home** button to stop the wiggling.
- g. Go to the App Store on the iPad or iPhone and download/install the app again by searching for *FlyQ+ EFB*.

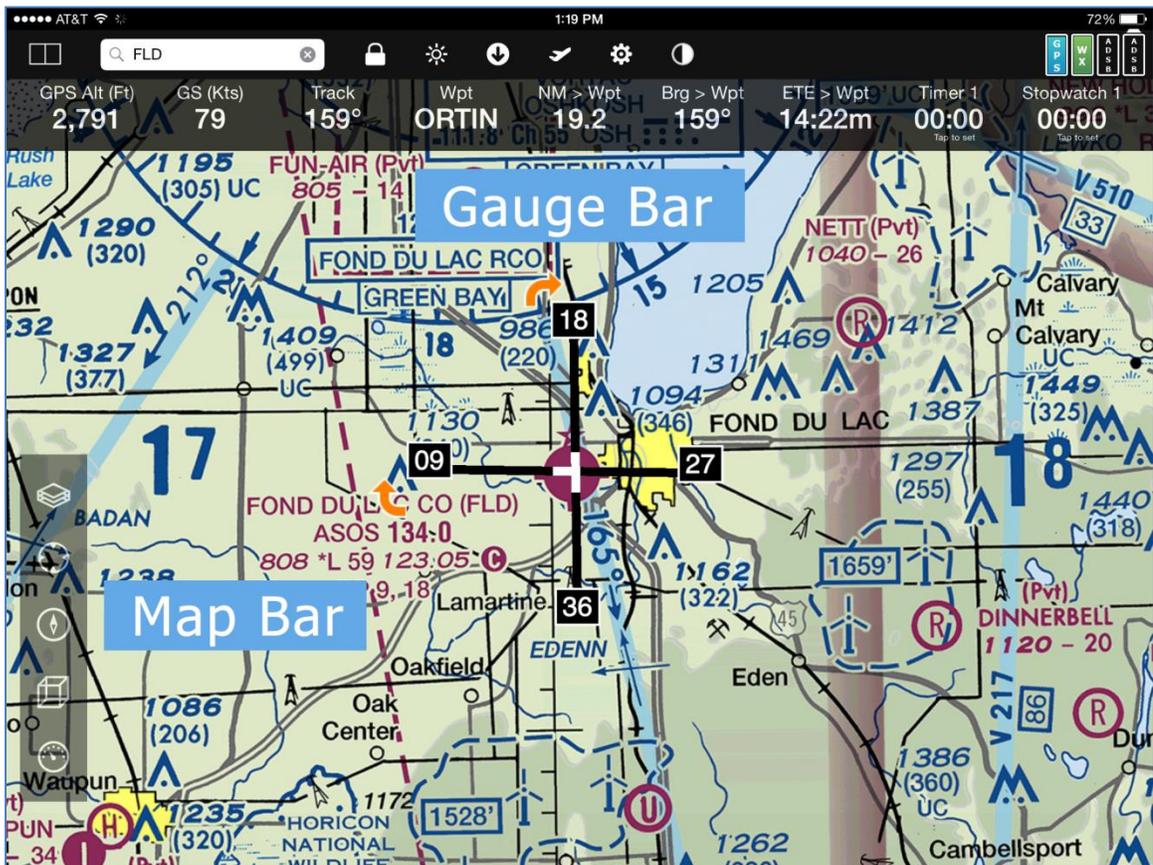
# Maps

## The 2D Map

By default, FlyQ+ EFB shows 2D maps. The  icon on the **Map Bar** shown below switches from 2D to 3D to AR (Augmented Reality) map types and back again.

Like most map applications, you can move the map (also known as *panning*) with your finger and use two fingers to zoom the map in or out. In addition, during flight, FlyQ+ will automatically zoom in as you approach your destination airport if a Flight Plan is active. This feature can be disabled in **Settings**.

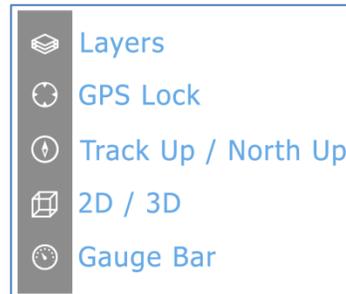
In addition to the map itself, there are two areas of the screen containing tools or information: the **Map Bar** and the **Gauge Bar**.



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## The Map Bar

In the lower left corner of every map is series of five (sometimes six) buttons. These control key mapping features. From top to bottom: **Layers**, **GPS Lock**, **Track Up**, **2D/3D/AR**, **Gauge Bar** and **Digital Options** (not shown) when the Digital layer is on.

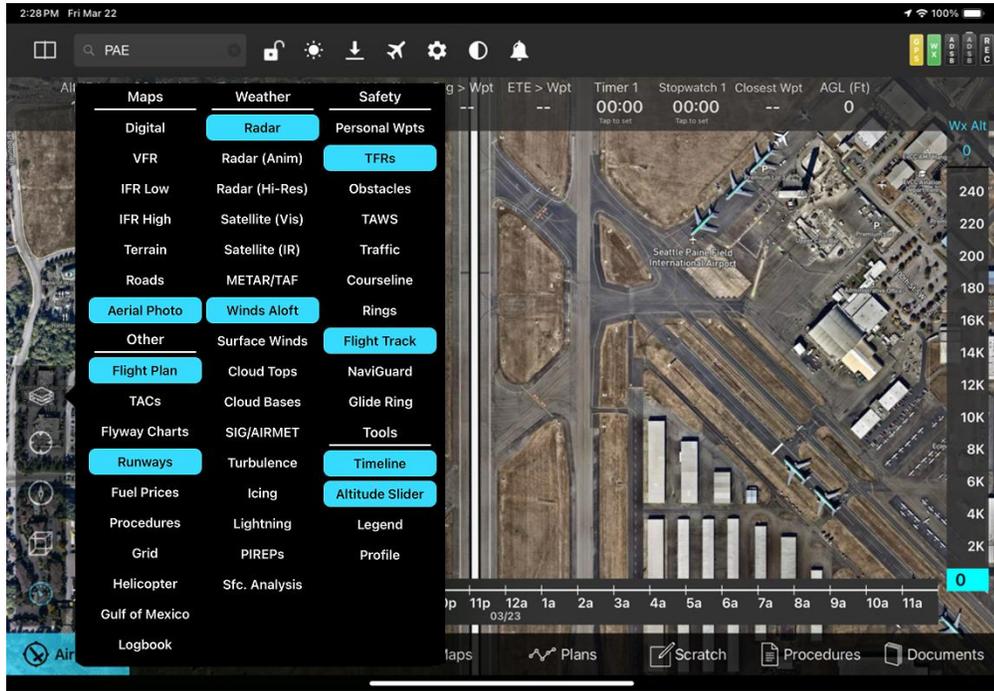


### Layers

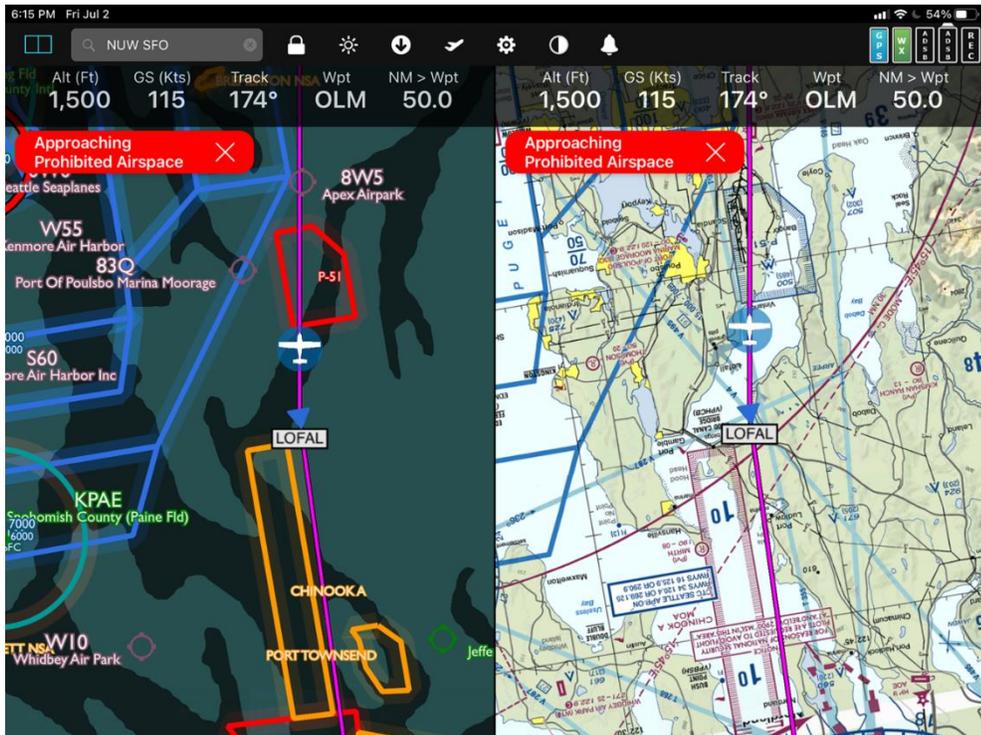
FlyQ+ EFB lets you mix and match any base map (*VFR*, *IFR Low*, *IFR High*, *Terrain*, *Roads*, and *Aerial Photo*) with overlays that you can choose. These overlays are known as *layers*. Simply select the base layer you want, then tap as many or as few additional layers as you like, for example:

- You can choose to see NexRad radar and satellite at the same time or see easy-to-read winds aloft arrows and METAR/TAF circles at the same time.
- If you create your own Personal Waypoints (also known as user-defined points), turn on the *Personal Wpts* layer.
- Look at *Fuel Prices* and *Radar* at the same time when trying to choose a safe, inexpensive place to get fuel.
- How about flying with distance rings, an extended course line, terrain, and obstacle warnings over an IFR map?
- Other layers include geo-referenced *Procedures* (IFR Approach Procedures and Airport Diagrams), ADS-B Traffic, and extended runway centerlines with right-pattern indicators.
- Even turn on the Grid layer for CAP search and rescue missions.

You decide what you want to see overlaid on the map and FlyQ+ EFB will display it. The *Flight Track* layer, also known as “breadcrumbs”, shows where you’ve flown. The *Logbook* layer works in conjunction with the **Flights** tab to show where you and/or your friends have flown.



## Base Maps





Except for the Digital map, the base maps (the *Maps* category within the **Layers** pop-up) display electronic versions of standard print maps created by aviation authorities and cover specific areas of the world. Their composition cannot be altered so text will be upside down or sideways unless you're flying north and become cluttered and unreadable when zoomed out. You can only select one of these base maps at a time.

The *Digital* map is different. It's dynamically generated by FlyQ+ EFB itself from a global database of airports, nav aids, fixes, and airspace. That means text remains readable as the map rotates, content appears and disappears based on the zoom level, and you can view airports all around the world. Also, unlike the other base maps, it can be used a standalone base map or combined with one of the other base maps.

## Using the Digital Map

1. Tap the **Layers**  button on the map.
2. Tap the **Digital** button to toggle the Digital map on or off.

The *Digital* map is unique in that it can be used as a background layer (like *VFR*, *IFR Low*, *IFR High*, etc.) or can be overlaid on top of other background layers such as the *Roads*, *Terrain*, or *Aerial Photo*. Unlike other map layers, enabling the *Digital* layer does not deselect other base layers. For example, if *VFR* (Sectional) is on, selecting *Digital* displays the Digital map *above* the VFR chart. This is especially useful when using a *Road*, *Terrain*, or *Aerial Photo* layer.

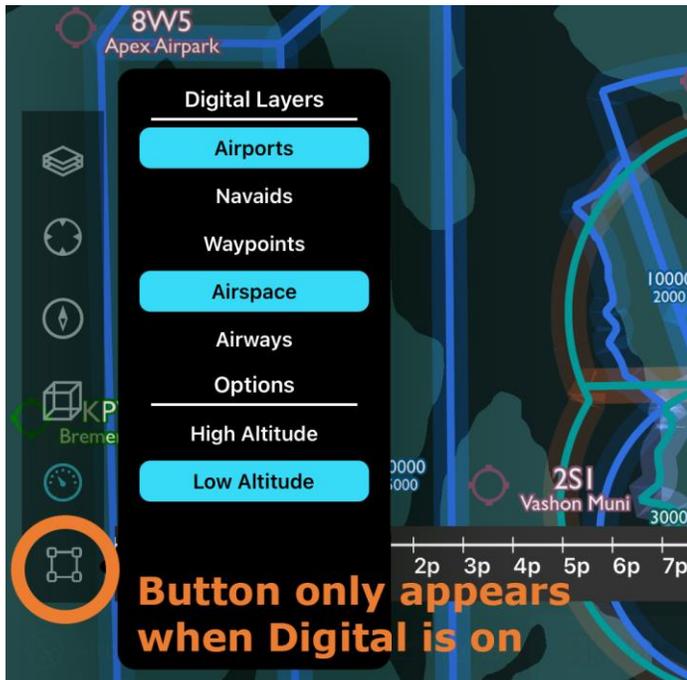
To see just the Digital layer:

1. Enable the *Digital* layer.
2. If another base map is also on, tap that other layer to turn it off.

In the example above where both the *VFR* and *Digital* layers are on, tap the **VFR** button to hide the *VFR* layer, leaving just the *Digital* layer.

## Selecting what the Digital map displays

Use the *Digital* layer to show any mix of airports, nav aids, waypoints, airways, and airspace. By default, FlyQ+ shows just the airports. To show different layers:



1. Tap the **Digital Options**  button at the bottom of the **Map Toolbar**. This button only appears when the Digital layer is on.
2. Select your choice of layers.
3. Choose to see features applicable to Low Altitude (default) or High Altitude flying.

## Weather Layers

FlyQ+ EFB includes numerous weather layers for the 2D map. Tap the **Legend** item in the **Tools** section of the **Layers** pop-up for a detailed key to colors and symbols.

The Winds Aloft and Surface Winds layers use arrows pointing in the direction that the wind is moving *not* in the direction from which it comes. If you choose to use wind barbs instead of wind arrows, the stick end of the barb is the direction that the wind is moving. Select your choice of arrows or barbs in **Winds Representation** in **Settings**. For Winds Aloft, the number is the expected wind speed, in kts, at the altitude selected on the **Altitude Slider** (right side of the screen). For Surface Winds, the number is derived from either a METAR or TAF, depending on the selection of the **Timeline**.

**Note: As you fly, the Altitude Slider automatically changes to match your current altitude (MSL).**

The METAR/TAF circles use your choice of three or four colors to depict the actual or expected weather conditions. Choose using the **METAR/TAF** switch in **Settings**.

The default three color system uses the following colors:

- Green: VFR
- Yellow: MVFR
- Red: IFR, LIFR, or VLIFR

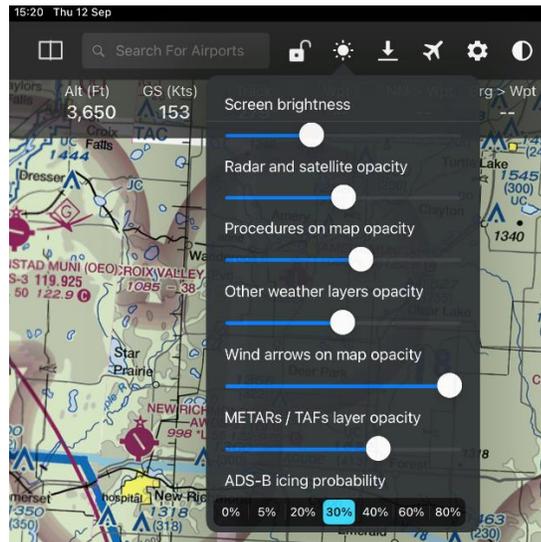
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The four color system uses the standard NOAA/NWS colors:

- Green: VFR
- Blue: MVFR
- Red: IFR
- Magenta: LIFR or VLIFR

The colors are determined by either METARs or TAFs, depending on the time. If the airport has a METAR report that is still valid (they last one hour), the color is based on a METAR. If you're outside the time range of METARs, FlyQ+ EFB automatically switches to using TAFs.

Tap the **Brightness** control at the top of the app to control the opacity of the Radar and Procedures layers as well as other weather layers. These options are also available in [Settings](#) (page 164). **Note:** For space reasons, this button is not shown on the iPhone but can be accessed from Settings.



## Safety Layers

The 2D map contains a collection of layers to help you fly more safely, including layers that display your courseline, an engine-out glide ring, distance markers from your position, obstacles and terrain data, and even a layer to help protect you against the new threat of [GPS spoofing](#). See page 70 for details on these layers.

The **Traffic** layer is another very useful safety feature which is available if you have an ADS-B receiver switched on in your aircraft. This is described on page 141.

## Other Layers

By default, the 2D map displays the VFR or Sectional chart. You can augment this with other layers for added information, such as Terminal Area Charts (**TACs**) and **Flyway**

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**Charts.** Both of these layers superimpose information over the Sectional, as shown by a subtle border. (**Note:** You can choose to combine Sectionals and TACs in a single layer using the option in **Settings**.)

The Grid layer displays one of three different types of Search and Rescue (CAP) grids. FlyQ+ EFB has extensive support for grids and automatic Search and Rescue pattern creation. See the [Search and Rescue](#) section on page 185 for much more detail.

The Fuel Prices layer uses three colors (green, orange, and burgundy) to indicate prices relative to other prices from nearby suppliers. Green means the price is below the local average, orange means it's near the average, and burgundy means it's above the average.

## GPS Lock

Normally FlyQ+ EFB uses your GPS to keep the map centered on your current location. However, if you use your finger to pan (move) the map, tap this button to re-center on the GPS. If **GPS Lock** is already on (blue), tap the button again to zoom in. The only way to turn **GPS Lock** off is to move the map.

FlyQ+ automatically re-engages the **GPS Lock** (which recenters the map) after you stop manually moving or zooming the map for 30 seconds. This only applies when in flight, not during preflight planning, and can be disabled in **Settings**.

## Track Up

FlyQ+ EFB makes it easy to switch between **Track Up** (blue and the default) and **North Up**.

**Note:** Track Up is meaningless unless you're moving (that is, have a track) so this button has no effect if you're using the iPad or iPhone at your desk. Also, when you turn **Track Up** on, the system engages the **GPS Lock** button.

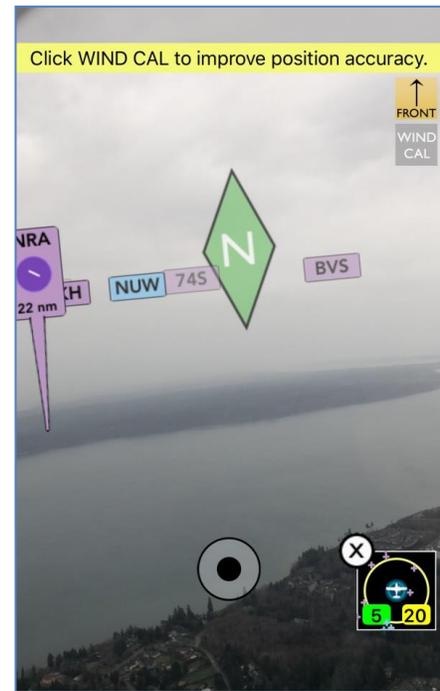
## 2D / 3D / Augmented Reality

FlyQ+ EFB was designed to use one very powerful mapping system that works in either standard 2D or true 3D Synthetic Vision mode. The app also includes a unique Augmented Reality view. There is no additional subscription required to get these features and switching from 2D to 3D to AR is as easy as tapping the button in the Map Bar. An AHRS is not required although the display is much more realistic with one (no yaw, pitch, or roll is shown without an AHRS).

## 2D and 3D (split screen)

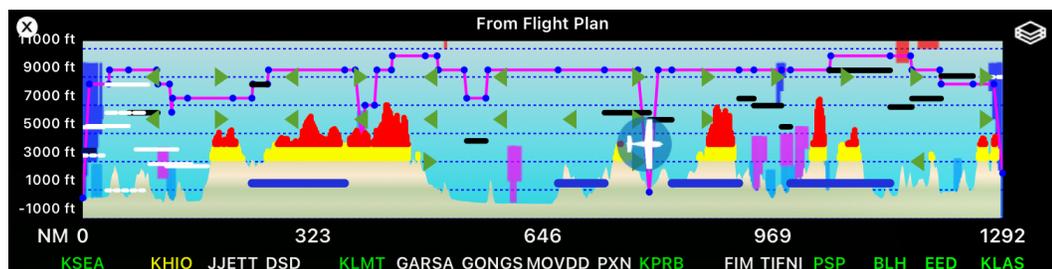


## AR (Augmented Reality)



**Note:** In 2D mode, FlyQ+ EFB automatically downloads data from the Internet so you don't *have* to pre-load data (of course, you should do this before you fly – see [Downloading Data](#) on page 30). However, for technical reasons, 3D synthetic vision *requires* data to be pre-downloaded. Therefore, if you switch to 3D mode before downloading data, you'll see a warning that you need to use the **ChartData Manager**. If you don't have terrain data downloaded, all you'll see is a blue screen.

## Profile View



The Profile View could be thought of as a “side view” or “cross-section” of your flight. It shows your actual position over terrain (color-coded for terrain warnings), within airspace, over airways, and through several different weather layers. Flights are shown so the start of the flight is on the left side and the end is on the right.

The Profile is time-synchronized to your flight so it shows the weather you can expect at different points during the flight.

The Profile altitude range scales automatically to the flight plan's highest cruise point.

The bottom of the Profile shows nautical miles within the flight plan or 0-100 NM if there is no valid plan. Below that, the Profile shows idents within the flight plan, if any. Idents that are airports are colored based on METAR/TAF status exactly as they would be on the 2D map:

- Green: *VFR* flight rules.
- Yellow: *MVFR* flight rules.
- Red: *IFR*, *LIFR*, or *VLIFR* flight rules.
- *White*: not applicable (it's not an airport or the time period is such that no METARs or TAFs apply to it).

By default, the Profile view is shown during preflight planning (that is, when not flying) and hidden during flight. Switch the view on or off using the **Layers**  button on the left side of the 2D map and select/deselect the **Profile** option from the **Tools** section. If the Profile is visible, click the **X** button at the top left corner to close it.

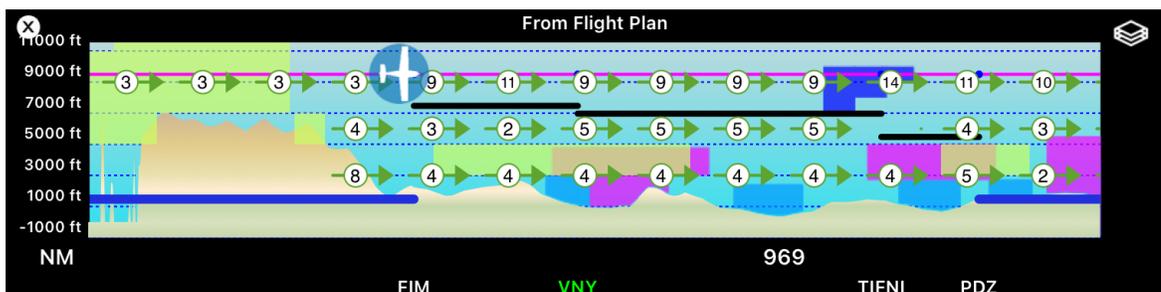
#### Notes:

The **Altitude Slider** on the 2D map has no bearing on the Profile's display. For example, the Altitude Slider controls how Cloud Tops are displayed on the 2D map (it hides those that are below the selected altitude) but the Profile shows all Cloud Tops at every altitude.

The Profile view uses a widened perspective of the terrain and weather to help keep you safe. For example, terrain is derived from the **highest point within about 1 NM from your track**. As a result, there can be situations, especially when flying through passes and areas with high surrounding terrain, when it's possible for the aircraft icon to appear to be below the terrain.

#### Zoom and Pan

The Profile view behaves very similarly to the **Timeline**. Like the Timeline, use standard pinch gestures to zoom in on the Profile (put two fingers on the Profile and move them apart) and zoom out (put two fingers on the Profile and move them together). When zoomed-in, put two fingers on the Profile and move them left or right to pan (move) the Profile. If zoomed in, double-tap the Profile to return to showing the full flight.



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## Layers and Options

The Profile includes a number of different layers and a few options that control how the Profile behaves. Tap the **Layers**  button at the right side of the Profile view to see these choices (described below).

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**Tip:** For weather and TAWS, FlyQ+ EFB uses the same colors as those shown on the 2D map, so tap **Legend** on the 2D map's **Layers** menu to see the meaning of colors and patterns.

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**Flight Plan:** Just like on the 2D map, selecting this option shows a magenta line that represents the current flight plan route. **Note:** The line is hidden while in flight if the flight track has deviated more than about 5 NM from the route.

**TAWS:** Also like on the 2D map, FlyQ+ EFB uses colors as a Terrain Awareness and Warning System (TAWS). *Yellow* indicates that your position is within 1000 ft AGL of the terrain, *red* indicates within 200 ft (or below) the terrain.

**Airspaces:** Shows airspace blocks along the route. Colors are the same as those seen on a US Sectional. For example, *Class B* is dark blue, *C* is magenta, *D* is light blue, *E* is pink, red is *TFR* or *MOA*.

**Ceilings:** Based on METARs or TAFs (whichever is appropriate for the selected time), FlyQ+ EFB displays white lines representing cloud layers. Dotted lines are *scattered clouds*, segmented lines are *broken clouds*, and solid lines indicate *overcast conditions*.

**Cloud Tops:** Blue regions represent cumulus cloud tops derived from Internet data or all cloud tops when from ADS-B.

**Winds:** Colored arrows and/or numbers indicate winds aloft at various altitudes. Arrows indicate whether to expect a tailwind (arrow to the right) or a headwind (arrow to the left) and are colored based in the headwind/tailwind (not total) velocity of the winds using the same system as seen on the 2D map (green: *0-20 kts*, yellow: *21-60 kts*, red: *61+ kts*). The headwind/tailwind velocity in kts is displayed in a white circle when zoomed-in sufficiently.

**Icing:** Icing is colored with progressively darker shades of blue depending on icing potential (Internet) or severity (ADS-B).

**Turbulence:** Colors indicate *Very Light* and *Light* turbulence in shades of blue and green and orange to red as *Moderate* to *Severe* to *Extreme*.

**Airways:** Black lines indicate the MEA (Minimum Enroute Altitude) of airways (Victors and Jets) along or near your route.

**SIG/AIRMETS:** AIRMETS and SIGMETs along the route are displayed in various colors: Brown: *Convective*, Blue: *Icing*, Grey: *IFR*, Green: *Mountain Obscuration*, Orange: *Turbulence*.

**Sync flight time:** When selected, the Profile view calculates the expected time for each point along the flight plan and displays the weather expected at those times. This implies that the left side of the Profile is based on takeoff time and the right side is based on landing time. If this option is deselected, the weather for the entire Profile is based on the time indicated on the **Timeline**.

**Sync with map:** This option forces the Profile view to track based on how the 2D map is positioned and zoomed. When this option is switched on, the Profile is based on the flight plan points visible on the 2D map (specifically one point before and one point after the points visible on the map). When this option is off, the Profile does not change as the map is moved and zoomed.

### Details

Tap a point on the Profile (or press then slide and release) to see details about that point. The resulting pop-up only shows layers that have been selected to show on the Profile View.

Profile Detail			
Ceilings			
— 7,500' AGL		Overcast	
-- 7,000' AGL		Broken	
— 6,000' AGL		Overcast	
... 4,900' AGL		Scattered	
-- 600' AGL		Broken	
Winds Aloft			
3,000'	199 ° / 17 kts	Headwind 17 kts	
6,000'	229 ° / 17 kts	Headwind 14 kts	-4° C
9,000'	235 ° / 20 kts	Headwind 16 kts	-8° C
12,000'	245 ° / 28 kts	Headwind 19 kts	-13° C
18,000'	269 ° / 30 kts	Headwind 9 kts	-25° C

### PreFlight vs. In-Flight Profiles

Pre-flight planning is quite different than in-flight use so FlyQ+ EFB adapts how the Profile works for each use. During Pre-Flight (or whenever the app doesn't think you're flying), the Profile shows your entire flight plan. Select a point on the **Timeline** at the bottom of the screen to position an aircraft marker on the Profile at the point it would be during that time of the flight. By default, the weather on the Profile is indicative of the time you are expected to pass each point during the flight. For example, on a flight of four hours' duration, the weather towards the left side (start) of the Profile is what to expect at takeoff time, the weather towards the right side (end) is what to expect during landing four hours later.

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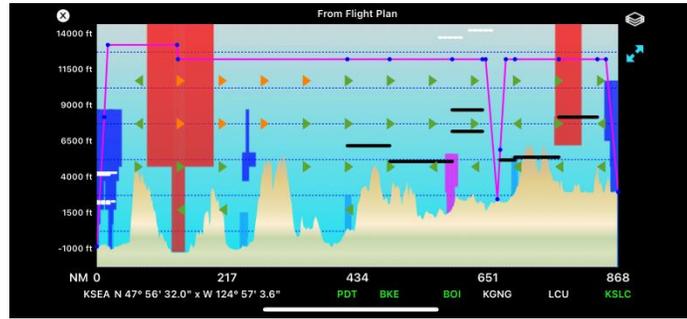
The behavior in-flight is a little different in that it may or may not use the flight plan as a basis for the display. Specifically, if there is a flight plan selected and you are flying within about 0.5 NM of the route, the Profile displays the Flight Plan Line and shows terrain and weather along the route regardless of your exact actual position. However, if you don't have a flight plan loaded or have deviated more than 0.5 NM from the route, the Flight Plan Line disappears, a warning message appears at the top of the top of the Profile, the Profile shows what to expect for the next 100 NM based on your ground track.

### Internet vs. ADS-B Weather

- Most ADS-B sources show weather from the current time, not forecast, so in-flight weather on the Profile will mostly be relevant to the current time; therefore, turning **Sync Flight Time** off may be advisable. However, METARs, TAFs, Ceilings, and Winds Aloft are predictive even under ADS-B.
- Turbulence and Icing data obtained via ADS-B will report No Data to show that there is no data available, whereas data from the Internet only reports No Data when the data has not yet been downloaded.
- Turbulence / Icing / Cloud Tops will only be available regionally, not over the entire route of a long flight plan, due to ADS-B limits.
- When connected to an ADS-B source, Icing will show Severity and Probability of SLD droplets and the Probability threshold can be set from the Brightness and Opacity control at the top of the screen (iPad) or Settings (iPhone). From the Internet, only Icing Probability is displayed.
- Turbulence displays greater granularity, including specific EDR levels, when taken from ADS-B.
- Cloud tops are FAA-reported tops, not just cumulus tops.

### iPhone Specific Display

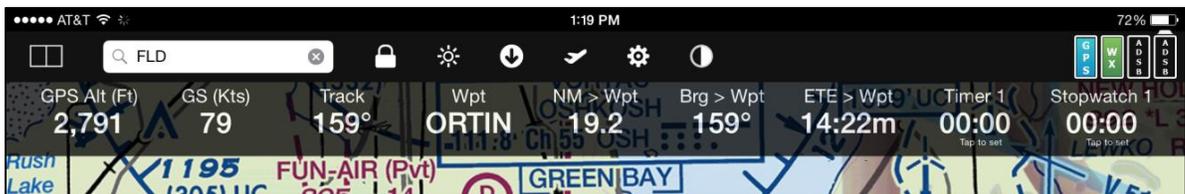
On the iPhone, FlyQ+ EFB runs only in Profile format (longest screen dimension is vertical) so has a much narrower display than the iPad, making the Profile View harder to see. Therefore, on the iPhone, there is a **Full-Screen**  button below the **Layers**  button that shows the Profile using the entire phone screen. It does this in landscape format (longest screen dimension is horizontal) using the maximum width of the phone. Once in full-screen view, tap the **Full-Screen**  button or the **Close (X)** button to dismiss the view.



## Gauge Bar

The top of the map displays a number of pilot-configurable gauges (speed, altitude MSL, altitude AGL, next waypoint, timers, etc.). FlyQ+ EFB has more gauges than can fit on the screen so press and hold a gauge to see a list of the other possible gauges that can go in that position. Scroll the list of available gauges by swiping the list up and down.

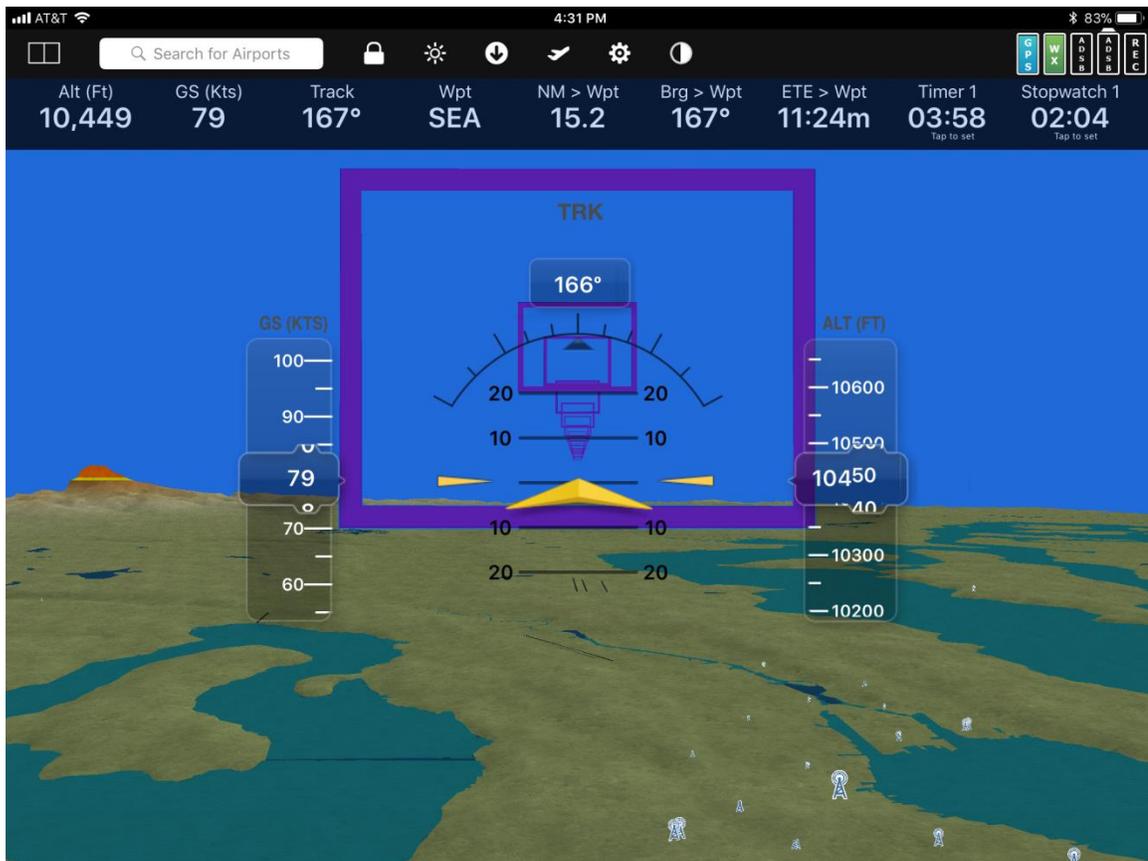
Switch the **Gauge Bar** on and off with the last button on the **Map Bar** .



Gauge	Function	Notes
GPS Altitude / Pressure Altitude	Displays the geometric altitude as reported by a GPS or pressure altitude if sent from the position source.	GPS altitude is not corrected for atmospheric pressure.
Ground Speed	Ground speed in Knots, MPH, or K/min.	Change units in <a href="#">Settings</a> (page 164).
Track	Magnetic ground track.	
Position	Latitude/longitude.	Tap to create a Personal Waypoint at that location.
AGL	Altitude above Ground Level.	The low-resolution terrain database must be loaded.

<b>VSR</b>	Vertical Speed Required in Ft/Min to go from the current altitude to a specified AGL and distance from the next airport in the flight plan. Arrows show if climb or descent required.	By default, the system aims for 1000 ft AGL and 3 NM away from the airport. Change these values in <b>Settings</b> .
<b>Bearing to Wpt</b>	Magnetic course to the next point on the flight plan.	
<b>ETE to Wpt</b>	Estimated Time Enroute from the current position to the next waypoint.	
<b>Distance to Wpt</b>	Distance to the next waypoint in the flight plan in NM, SM, or KM.	Change units in <b>Settings</b> .
<b>Dist. to Landing</b>	Distance to the final landing (not next fuel stop).	
<b>Time to Landing</b>	Time to the final landing.	
<b>Waypoint</b>	Name/ident of the next waypoint in the flight plan.	
<b>Closest Waypoint</b>	The waypoint closest to your current location.	
<b>Timer 1</b>	Countdown timer.	Tap to set the duration and start/stop the timer.
<b>Timer 2</b>	As above.	Timer 1 and Timer 2 are independent of each other.
<b>Stopwatch 1</b>	Count-up timer.	Tap to Start/Stop.
<b>Stopwatch 2</b>	As above.	Stopwatch 1 and Stopwatch 2 are independent of each other.
<b>Clock</b>	Zulu (UTC) clock.	
<b>Blank</b>	No gauge.	Useful for simplifying visual layouts in some cases.
<b>GPS Info</b>	Shows horizontal and vertical accuracy of the GPS.	This value is estimated and should only be used as a general guide.

## The 3D (Synthetic Vision) Map



Enable the 3D Synthetic Vision mode by tapping  on the **Map Bar**. This button cycles between 2D, 3D, and AR (Augmented Reality) views so you may need to tap the button twice to get 3D, depending on where you start from. **Note:** You can disable the AR view in [Settings](#) (page 164).

In 3D mode, FlyQ+ EFB shows a computer-generated image based on the direction of flight and, if you have an AHRS (generally part of your ADS-B receiver), roll and pitch. The 3D view requires downloading relatively large files with the high-resolution terrain data needed to generate the view. This switch, **High-Resolution Terrain**, is on by default in the **ChartData Manager** section of the app ( button near the top of the screen) but, unlike 2D map data, this data is not downloaded “on demand” as you sit at your desk. Rather, you must explicitly go to the **ChartData Manager** page and tap **Update Now** to download the data or you will not see any terrain.

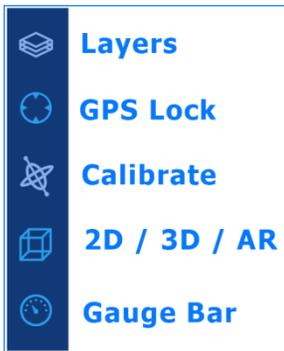
On an iPad, the default 3D view shows an EFIS display (HUD) that shows roll and pitch in the center area, current track above the EFIS, and two “tape” displays on the side which show ground speed and altitude. On an iPhone, the tape and track displays are not shown to save screen space.

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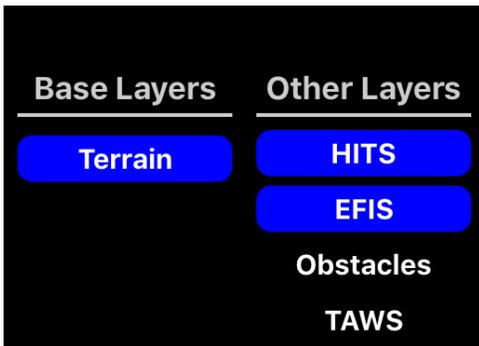
Like in 2D mode, a Map Bar also appears on the left side of the screen. By default, unlike when in 2D mode on an iPad, the Map Bar disappears after a few seconds to save space.

## The Map Bar

The 3D Map Bar includes most of the same icons as in the 2D view and adds one specific to 3D mode (**Calibrate**).



## Layers



The **Layers** button allows you to turn on a HITS (Highway In The Sky) layer (boxes that show your flight plan), the EFIS display, Obstacles, and TAWS (Terrain Awareness / Warning System). TAWS and Obstacles both use colors to indicate threat level where Red indicates terrain or obstacles within 200 ft and yellow indicates a threat within 1,000 ft.

## GPS Lock

The GPS Lock button is always engaged in 3D mode and cannot be turned off.

## Calibrate

Unique to the 3D view is a button that looks like a spinning top or gyro. It calibrates pitch and roll based on your AHRS feed and is not available if no AHRS is connected. When tapped, your current pitch and roll is considered “zero” so only tap it when in straight and level flight.

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## 2D / 3D / AR

The  button cycles between 2D, 3D, and AR (Augmented Reality) views so you may need to tap the button twice to get 3D, depending on where you start from. **Note:** You can disable the AR view in [Settings](#) (page 164).

## Gauges

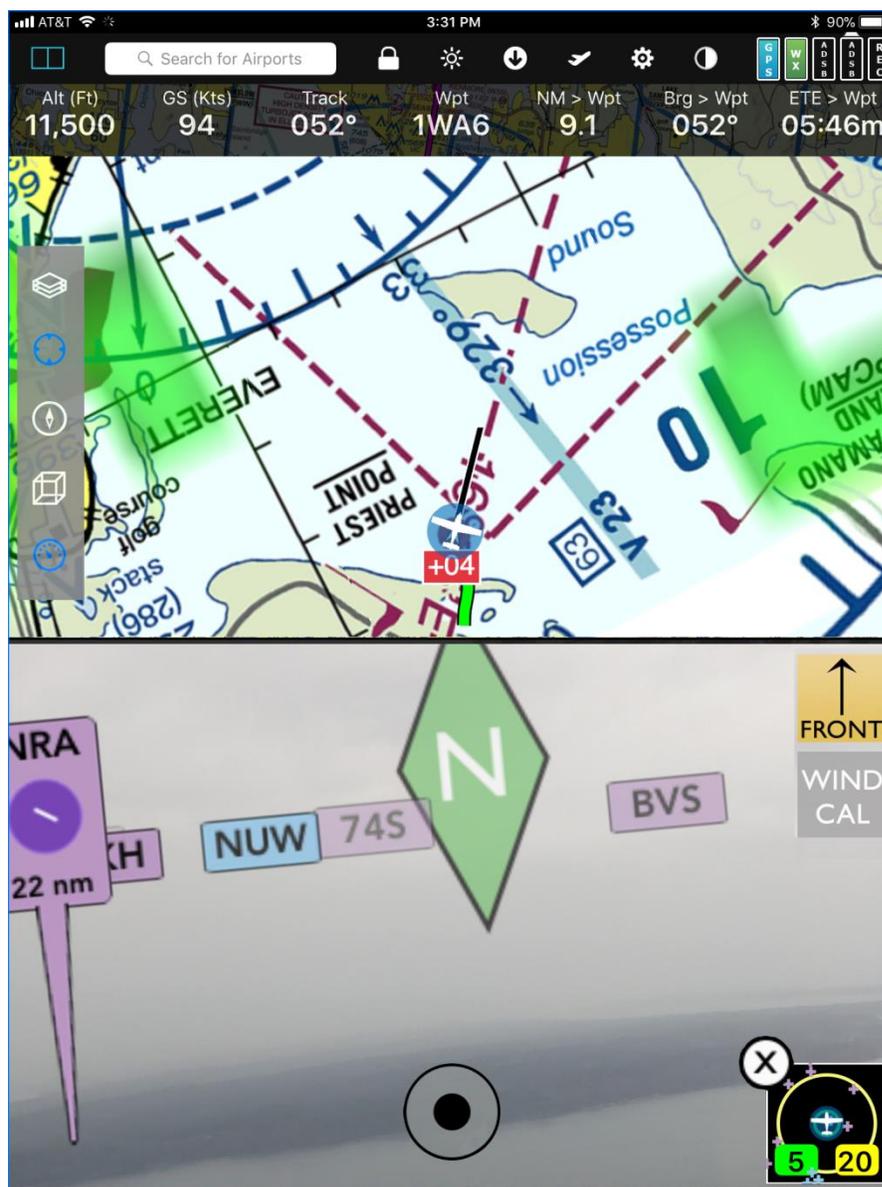
The last button controls whether the **Gauges** display (text displays that show speed, altitude, track, etc.) is shown at the top of the map or not. On an iPad, this is off by default since the tape displays on the left and right give most of the same information. The **Gauges** are on by default for an iPhone since the tapes are not displayed.

**Note:** The 3D synthetic vision system works properly when flying or in GPS simulator mode; it is not designed to work while on the ground. The display may not look right when used on the ground.

## The Augmented Reality Map

**Note:** Augmented Reality is not available for some older devices such as the iPad 2, iPad 3, and the original iPad mini.

Enable the AR (Augmented Reality) mode by tapping  on the **Map Bar**. This button cycles between 2D, 3D, and AR views so you may need to tap the button twice to get AR, depending on where you start from. **Note:** You can disable the AR view in [Settings](#) (page 164).



## What is Augmented Reality?

Augmented Reality is a computing term where “reality” (generally a video feed) is enhanced or *augmented* with digitally-drawn information. Imagine going to a party and seeing lots of people you don’t know, then putting on a pair of special glasses that magically adds the name and age of every person in your field of view. Or, in the case of FlyQ+ EFB, putting the name, distance, and other information about every airport shown in the video feed provided by your iPad or iPhone as you point it outside the cabin. This is materially different than HUDs (heads-up displays) that fighter pilots use because those HUDs display speed, altitude, and heading information not directly related to the objects in the view while the data in FlyQ+ EFB is tied directly to those objects.

You’ll find the AR view especially useful when flying at night, in bad weather, or when visiting unfamiliar airports. It’s the difference between “knowing” where an airport *should be* based on the overhead view provided by a 2D map versus having a friend with

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Superman's vision point out where the airports *actually are* no matter how bad the conditions are.

## Using AR

The AR view is not meant to be used continually during flight but generally before landing. It's especially helpful on the iPad in split-screen view where you're looking at a 2D map and the AR view at the same time. Alternately, many people use AR on their iPhone rather than iPad as an iPhone is generally not otherwise used for flying while an iPad is often used for primary navigation, making it inconvenient to wave around the cabin.

Point the rear camera of your iPad or iPhone towards airports and FlyQ+ EFB draws markers where the airports would be if you could see them. The marker sticks are color-coded like the airport icons in FlyQ+ EFB: *Blue* = controlled airport, *Magenta* = uncontrolled airport. The markers also show the runway configuration from a north-up perspective and the distance to each airport. You can select which types of airports are shown with the **Layers** button explained below.

Nearby airports are shown with a "stick" that points to the airport's location. Airports that are further away do not have this stick so as not to create visual clutter. Distant airports begin to fade-out the further away they are. Tap an airport marker to see more information about the airport (runways, frequencies, weather, etc.).

See something interesting? Tap the **Shutter** (black dot icon) in the lower center of the screen to snap a photo. You'll get two photos per tap; one with all the markers you see on the screen and one "clean" image with no markers. These images are in the **Photos app** on your device.

## Accuracy and Calibration

Creating augmented reality using strictly off-the-shelf hardware has a few limitations so it's very important that you read this document before using AR in-flight. The portion about how the **FRONT** button works (below) is especially important.

The app uses the sensors in your device to determine location, yaw (lateral direction), pitch, and roll. It does not use an AHRS, even if you have one connected, because the app lets you point the device in any direction, not just straight out the windscreen. When not moving, yaw is determined solely by the compass in your device. The compass isn't perfectly accurate so using the app while at your desk will give you a sense of how the app works but can't accurately display airports.

The **FRONT** and **WIND CAL** buttons, explained below, dramatically increase accuracy but the app can only show approximate locations so do not rely on it for absolute accuracy. The sensors in your iPad and iPhone were never designed for the tricky physical, magnetic, and electrical environment of your aircraft.

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## FRONT

The **FRONT** button at the upper right of the screen helps calibrate lateral position. It has 3 modes: *clear* (off), *yellow* (medium accuracy), and *green* (highest accuracy).

### *Clear Mode*

When you start the app, it doesn't know which way is front, so the **FRONT** button is clear (Off). In this case, the compass (or *magnetometer*) in your device determines direction. The compass is highly affected by the magnetic and electrical "noise" so isn't especially reliable.

### *Yellow Mode*

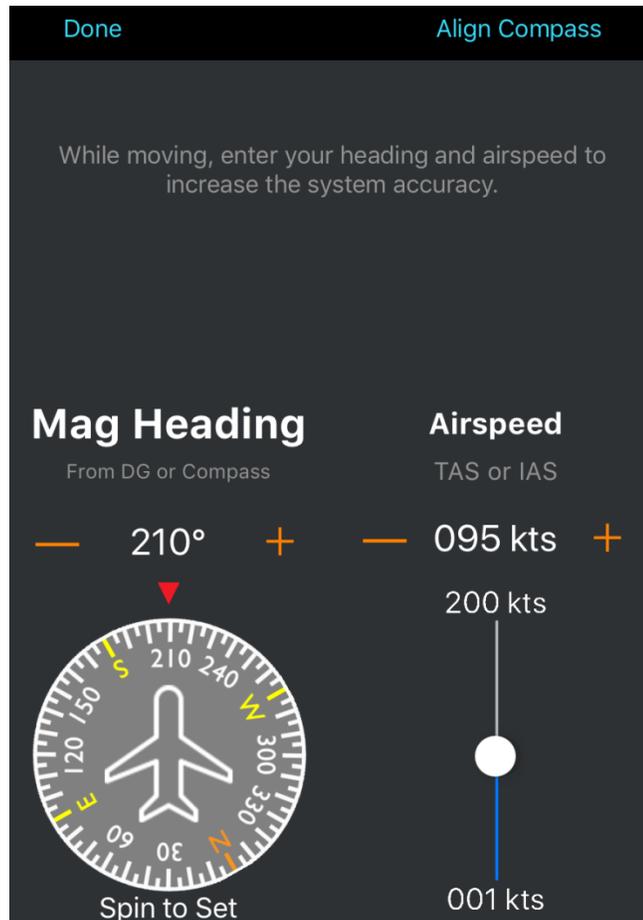
When moving, point the camera straight out the front of the plane and tap **FRONT**. That tells the app which way is forward and calibrates the system. The button turns yellow to indicate that some positional accuracy is available. You can move the iPad/iPhone left and right to see airports to the side or behind you. Over time (such as a couple of minutes), accuracy will decrease as the device sensors drift so you may want to re-center the device and tap **FRONT** at regular intervals.

### *Green Mode*

For greater accuracy, you can lock the camera to the front position. This tells the system to always assume the device is pointed straight outside and ignore the device's gyros and compass. Tap and hold **FRONT** for a few seconds and the button turns green to indicate that it's locked to the front position. In this mode, rotating the device left or right has no effect; the app assumes it's looking straight outside so always shows airports directly in front of you. The accuracy is very stable as it does not use gyros or compass in your device, relying solely on your GPS track.

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## WIND CAL (Wind Calibrate)



For best accuracy that compensates for winds aloft, fly straight and level then hold the rear camera straight out the front window and tap the **WIND CAL** button. Use the slider and + and - buttons to enter your current TAS. Spin the **Compass Card** to set the magnetic heading as shown by the instruments in the plane. These bits of data let FlyQ+ EFB calculate the wind vector so it can correctly compensate no matter which direction the iPad/iPhone is facing. You only need to redo this step if the winds have changed due to a large altitude change, a long distance travelled, or a large passage of time.

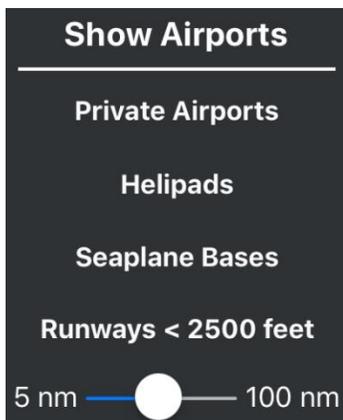
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## The Map Bar

The AR Map Bar includes some of the same icons as the 2D and 3D view and adds two that are specific to AR mode.



### Layers



**Private Airports:** There are far more private airports in the US than public airports. By default, FlyQ+ EFB hides them to remove clutter. Select to show them.

**Helipads:** There are also more helipads than fixed-wing airports in the US although most FlyQ+ EFB pilots do not fly helicopters, so these are hidden unless you explicitly show them.

**Seaplane Bases:** Unless selected, FlyQ+ EFB hides seaplane bases.

**Runways < 2500 feet:** Whether public or private, FlyQ+ EFB hides airports with very short runways. Select this option to show them.

**Distance slider:** FlyQ+ EFB normally hides airports that are beyond a certain distance away to reduce screen clutter. You may want to change this depending on where you're flying. For example, if you're near New York City or in Southern California, you'd

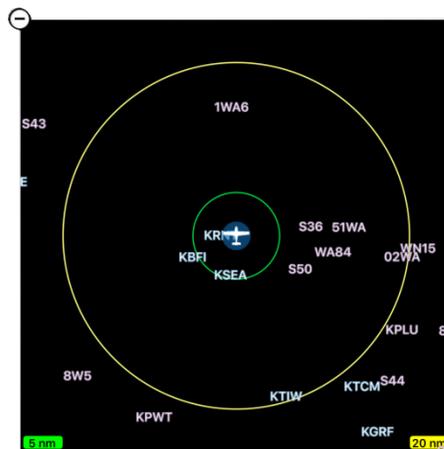
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probably want to restrict the distance while a flight in Wyoming may merit a much larger allowed distance.

**Tape (Ruler):** FlyQ+ EFB can display a moving tape at the top of the screen that gives a sense of heading. It's normally hidden as the standard Gauges are more comprehensive and use the same screen space.

**2D "Radar" View:** FlyQ+ EFB shows a convenient overhead image of nearby airports in a small window at the bottom right. Distance rings at 5 and 20 NM give a sense of distance for each airport. Unlike a standard 2D map, which is also an overhead view, the 2D Radar View bases airport locations on where the camera is facing, not the direction of flight. In other words, it matches the display on the AR view and changes as you rotate and move the iPad or iPhone within the cabin.

**Note:** Tap the small view in the corner to see a larger, more detailed image.



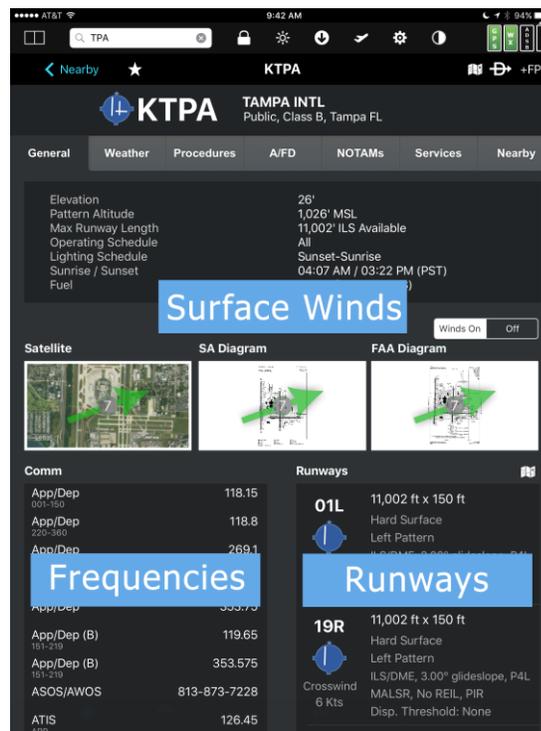
**2D / 3D / AR:** The  button cycles between 2D, 3D, and AR views so you may need to tap the button twice to get AR, depending on where you start from. **Note:** You can disable the AR view in [Settings](#) (page 164).

**Gauges:** The  button controls whether the Gauges display (text displays that show speed, altitude, track, etc.) is shown at the top of the map or not. The Gauges are on by default.

# Airport Information

## The Rule of 2

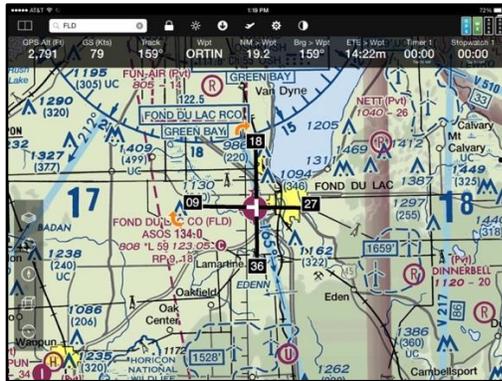
Flying requires fast and easy access to data and FlyQ+ EFB delivers this. We put particular emphasis on giving you important airport information quickly and clearly. In fact, we have a name for it: [The Rule of 2](#). *The Rule of 2* means that it should never take more than two taps to get to key in-flight information. As you can see, with just a simple tap all the key information you need to fly to an airport is shown clearly and concisely on one screen; there is no need to tap further buttons or tabs to see information.



# Runways

## Extended Runway Lines

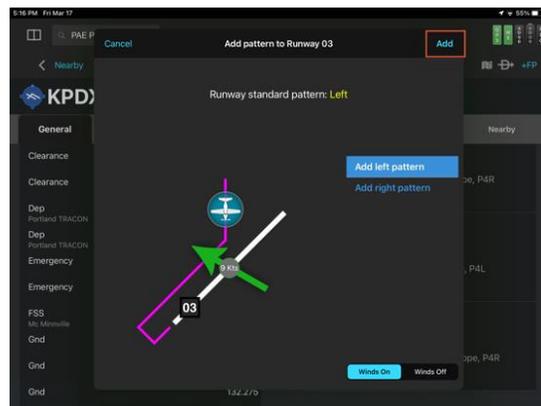
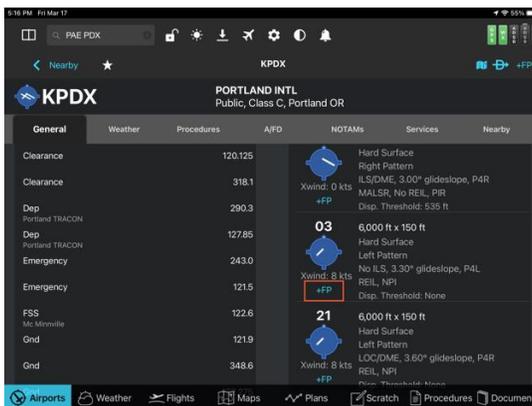
The runways at the selected airport are automatically shown as extended lines on the map for easier recognition. An orange arrow appears on the map to inform you if a runway has a right-pattern. Deselect the **Runways** item on the map **Layers** pop-up to hide extended runways.

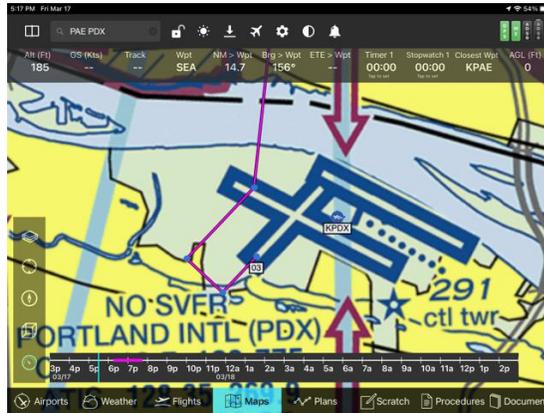


## VFR Runway Patterns

FlyQ+ can add a standard VFR entry pattern to your Flight Plan. It brings you to the threshold of a selected runway, taking any Displaced Threshold into account.

1. Tap the **+FP** button next to the runway you want.
2. Choose **Add Left Pattern** or **Add Right Pattern**. The standard pattern for the runway is noted at the top of the screen and is the default selection but you can override it. Tap **Add**.





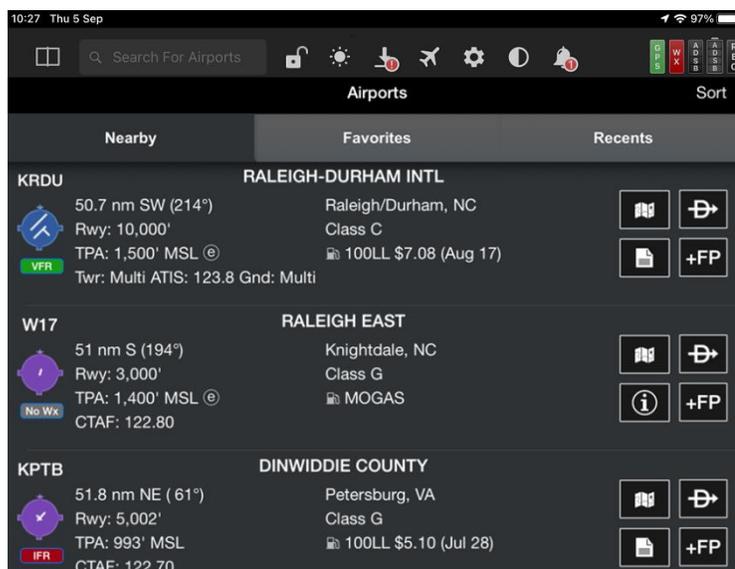
Once added, remove a pattern from the **Airports** page by tapping the **-FP** button that replaces the **+FP** button. **Note:** **+FP** is only available when using a Flight Plan and only for airports that are landing or fuel stops.

**IMPORTANT:** The **VFR Runway Patterns** feature makes no attempt to avoid terrain or obstacles or select an optimal entry. For example, FlyQ+ may route you directly over the airport if you're flying from the north but choose a runway and entry pattern that is suited to a southern entrance. Use the rubber-band feature to modify your approach for safety and convenience.

## Nearby Airports

Let's say you're flying and have an emergency or you simply like the security of always knowing what the nearby airports are. Just tap the **Airports** tab and FlyQ+ EFB instantly uses the GPS to show nearby airports. Normally these airports are sorted by distance, but you can tap **Sort** to arrange the list by weather conditions, longest runway, or even by which airports have fuel. This list is not static; it updates automatically every 15 seconds so it's a great safety aid to keep this screen up all the time. And it's much more than a simple list of airport names. For each entry, you'll see current weather conditions, distance and bearing to the airport, the lowest fuel price, key operational info such as elevation, TPA, frequencies, and more. Tap any entry for even more information.

**Note:** There are more than 10,000 US airports that are private or heliports that don't apply to most pilots. Therefore, by default, FlyQ+ EFB hides private airports and heliports during a search and in the **Airports/Nearby** tab. This can be changed in the **Settings** screen, in the **Preferences** section.



### Direct To and Add to Flight Plan buttons

You'll see a set of buttons next to each airport. Tapping **Direct To**  modifies (or creates) a flight plan from your current position directly to that airport. If the airport is already in your flight plan, points before the selected airport are removed but later points are retained. If the airport was not on your flight plan, the entire flight plan is replaced with this new plan.

The **+FP** button means "Add to Flight Plan" and lets you insert this airport anywhere within an existing flight plan.

### Map button

Tap the Map  button to move the map directly to that point.

### Procedure button

A Procedures  button appears when an airport has IFR procedures. Tap it to view the procedures for that airport. If an airport does not have procedures, the Procedures button is replaced with a General Information  button. Tapping this displays general airport information, exactly as tapping in the main area of the row.

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**Tip:** When looking at a list of airports, it's easy to see which airports have procedures and which do not by looking for those with a Procedures button rather than the General Information button.

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## Airports on Your Flight Plan

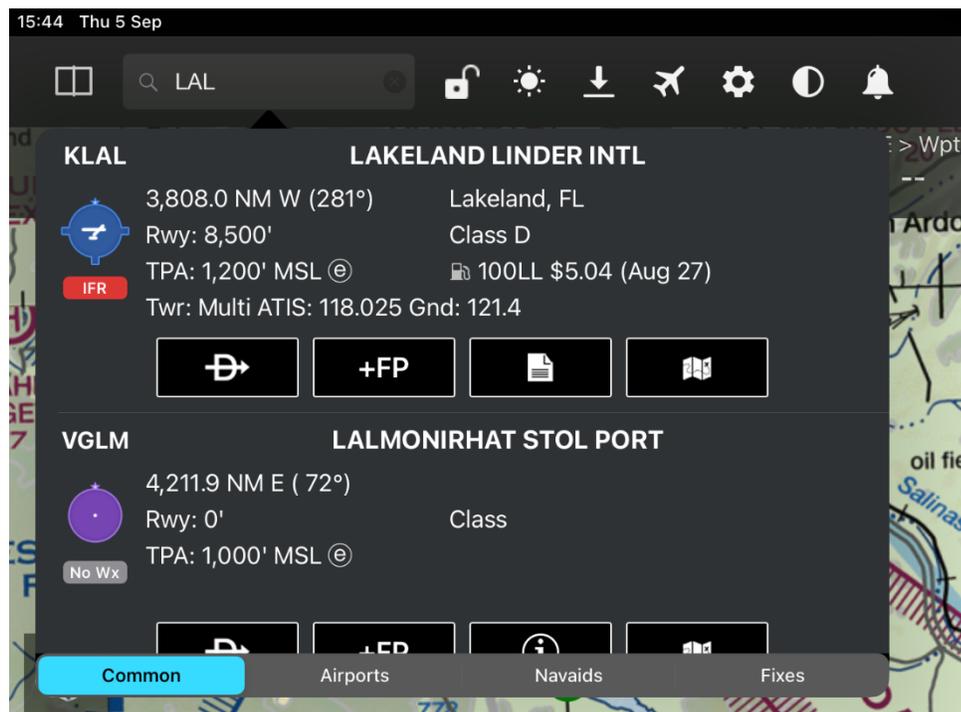
You may want to look up information on your destination as you approach it. Tap the **Plans** tab, tap your landing airport in the **NavLog** and the information is displayed.

**Tip:** Tapping an airport here automatically shows the extended runway centerlines and right-pattern indicators on the map.

	MXW	11,500'	174°	00:21:34	252° 4 kts	33.5 nm	93	95
	WUSHU	11,500'	176°	00:20:49	280° 3 kts	30.8 nm	89	89
	0Q9	11,500'	135°	00:04:03	260° 3 kts	5.5 nm	81	80
	SGD	11,500'	166°	00:23:34	0° 0 kts	33.6 nm	86	86
	KSFO	Tap for KSFO info						

## Search Box

The **Search Box** at the top of the screen is extremely powerful. You can use it to search for airports, nav aids, and fixes by ident, airport name, or city. Tap any search result for more information about it and use the buttons described above.



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You can enter a latitude/longitude in the **Search Box**. There is no standard way to enter latitude/longitude points so FlyQ+ EFB recognizes all the common formats. See the [Waypoint Entry](#) section on page 107 for more information about these formats.

**Note:** You **cannot use spaces to separate latitude and longitude** because FlyQ+ EFB interprets spaces as multiple idents.

In addition, you can enter a set of coordinates as relative to a navaid or fix by using the navaid or fix ident, a slash, a radial (or bearing for a fix), and a distance in NM.

CAP grid references can also be entered. FlyQ+ EFB accepts grid references in Gridded Sectional, Cell, or GARS format regardless of which grid system is displayed. Unless a corner suffix is added (*NW, NE, SE, or SW*), the latitude/longitude of the center of the grid cell will be used. See the [Search and Rescue](#) section starting on page 185 for much more information.

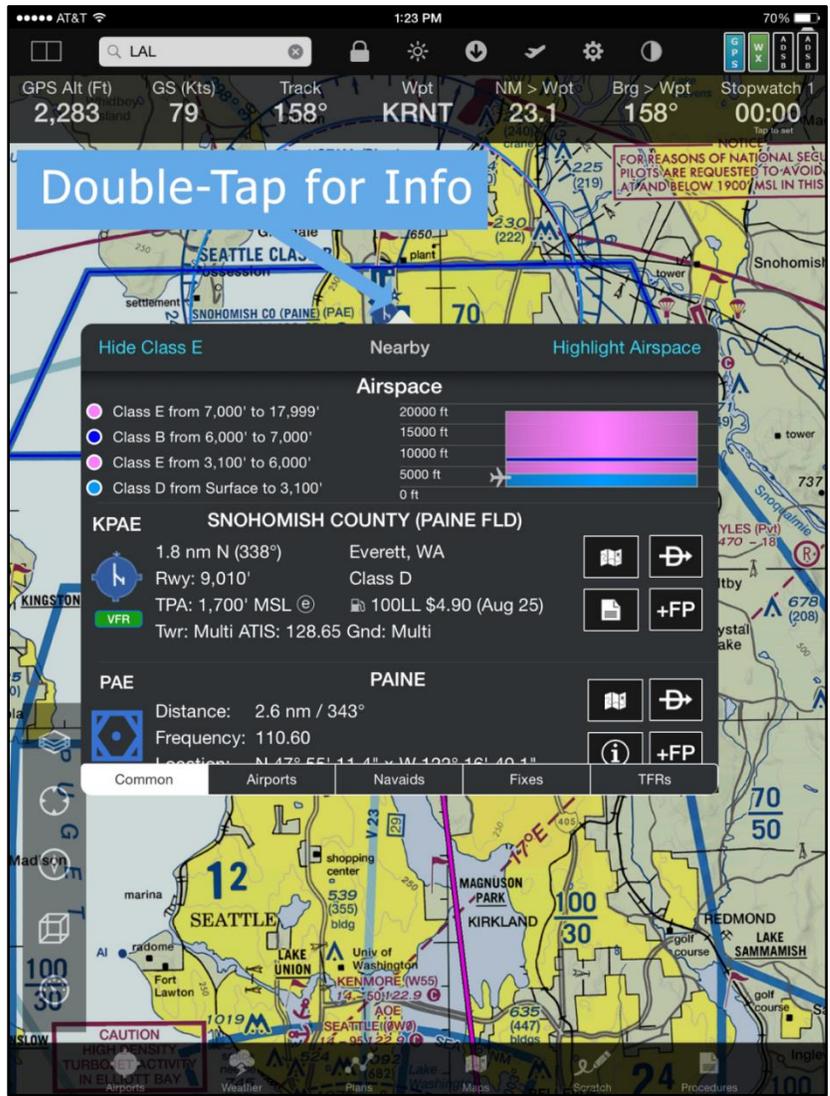
**+WPT** appears in the search results if you enter a latitude/longitude point, a location relative to a navaid or fix, a CAP grid reference, or the intersection of radials from two navaids. **+WPT** creates a Personal Waypoint at the latitude/longitude location. You can name these, show them to a map, and use them on a flight plan. See [Personal Waypoints](#) on page 108 for more information.

You can also create a flight plan by entering a series of idents into the **Search Box**. See [Basic Flight Planning](#) on page 103 for more information.

## Viewing Airports, Navaids, Fixes and TFRs

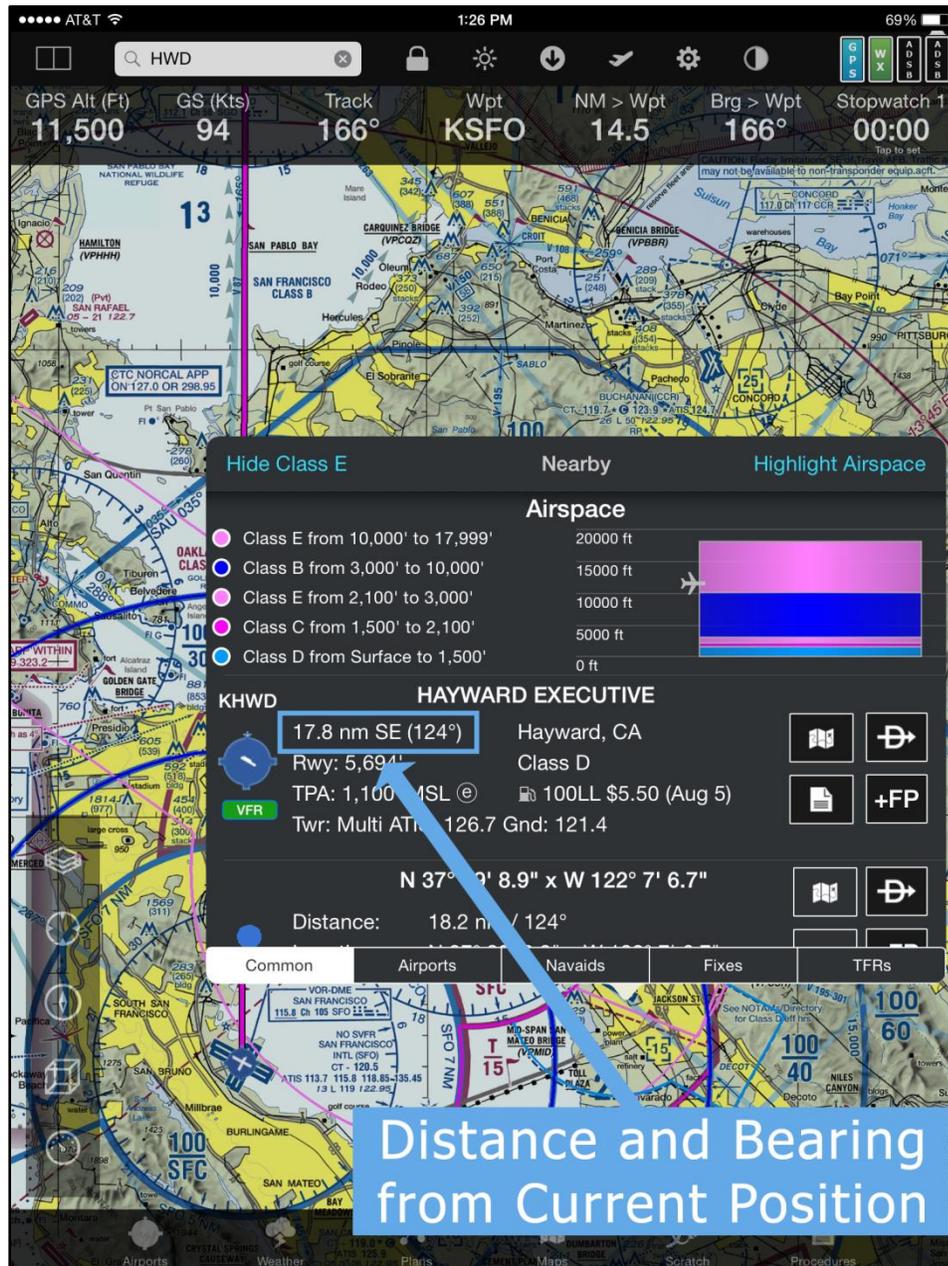
Humans are visual creatures and typing on an iPad or iPhone, especially while flying, isn't always the easiest thing to do. Once again, FlyQ+ EFB helps you with a simple system for getting information about airports, navaids, and fixes on the map: Double-tap the map and FlyQ+ EFB displays matches in the area you tapped. This list has tabs at the bottom. By default, the list just shows airports and navaids, but you can also select the **Fixes** tab or even **TFRs**.

**Note:** Some people have asked why you have to double-tap, not single-tap like some other apps. We did this intentionally because it's simply too easy to tap the screen accidentally, especially in rough weather.

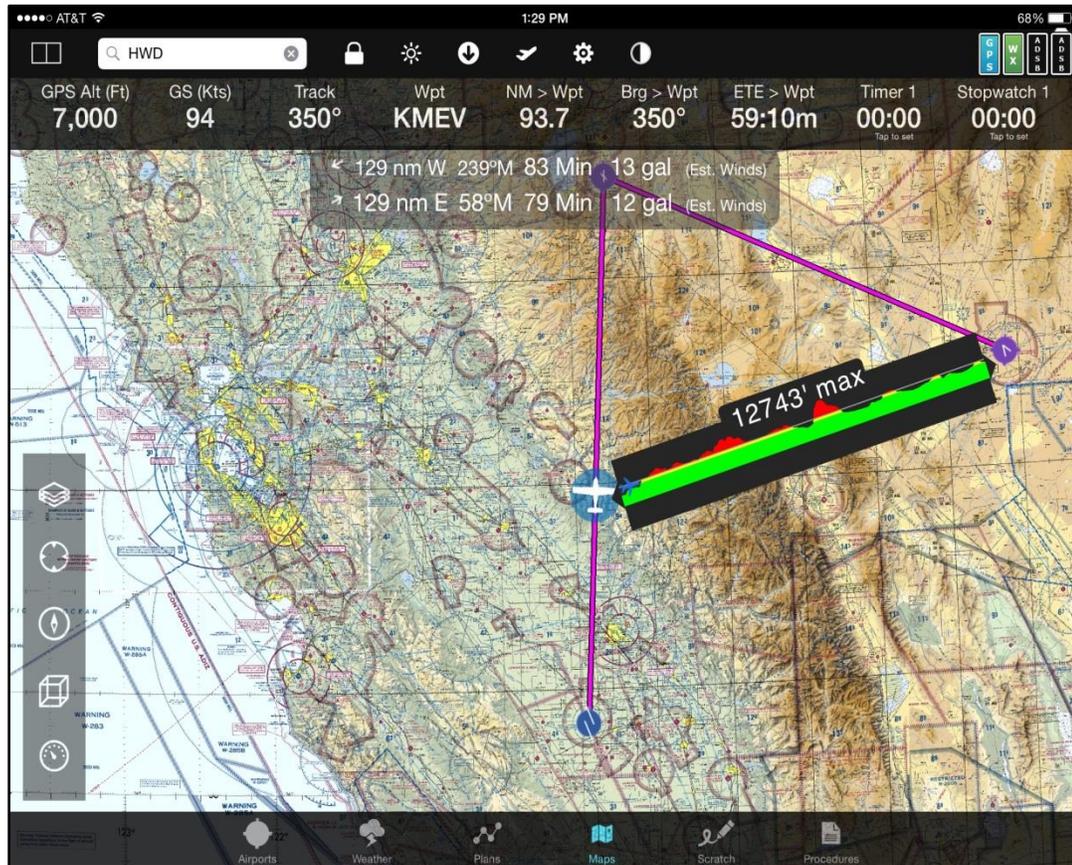


## Distance and Bearing to an Airport or Navaid

It's very common to need to know how far an airport or navaid is when calling the tower with a position report, managing fuel, and so on. Some other apps have a way of placing multiple fingers on the map. We have that, too, but we also have something much easier for most uses: double-tap anything on the map and the app shows the distance and bearing from your current position to every object near the double-tap. Simple!



## Distance and Bearing between Any Two Points

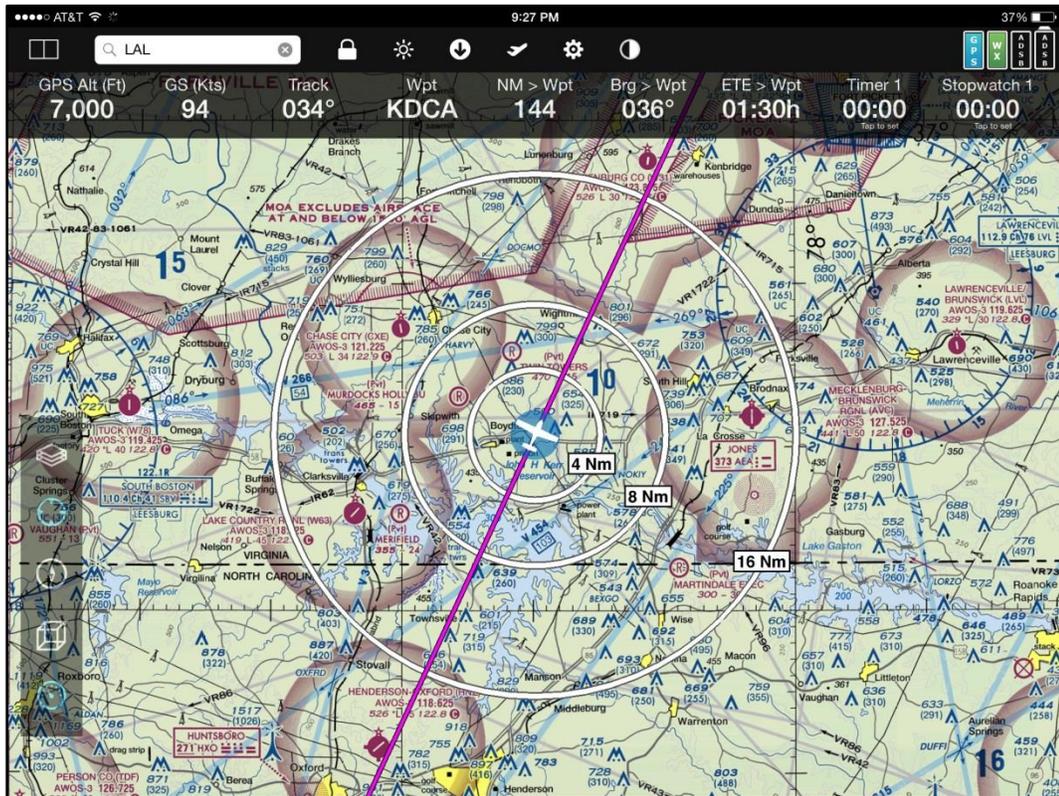


FlyQ+ EFB has an exclusive distance measurement system with Terrain X-Ray™ that's activated by putting two fingers on the map at the same time. Not only does it show distance and bearing when you press and hold two fingers on the map, it even calculates expected flight time and fuel consumption that take into account the winds going in both directions. Best of all, our exclusive Terrain X-Ray clearly shows elevation between the points relative to your aircraft and where terrain issues may be (yellow and red areas). The maximum elevation between the two points is shown at the top of the terrain profile.

**Tip:** You can move either end of the Terrain X-Ray by pressing one finger against either end then dragging it to a new position. Remove your finger to stop the dragging.

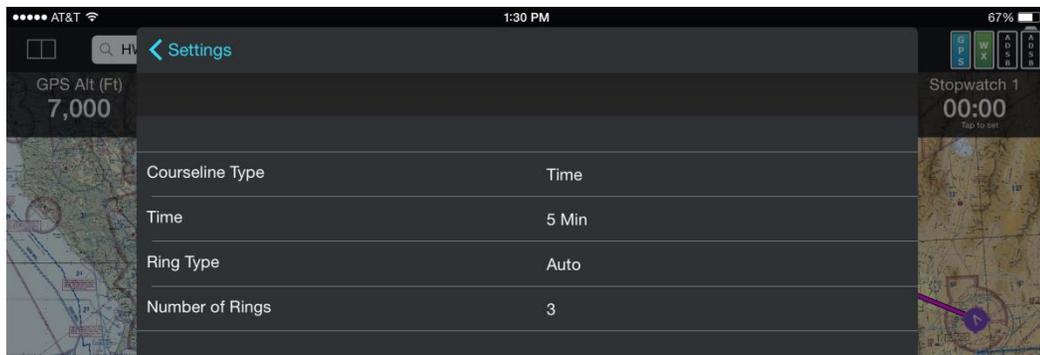
**Note:** The two bearings shown on the top display are magnetic and based on the magnetic variation of the starting point in each direction. Thus, the two bearings will not be exactly reciprocal unless the magnetic variations of both ends of the tap are the same (which only happens if the two tap-points are geographically very close to each other).

## Distance and Time Rings



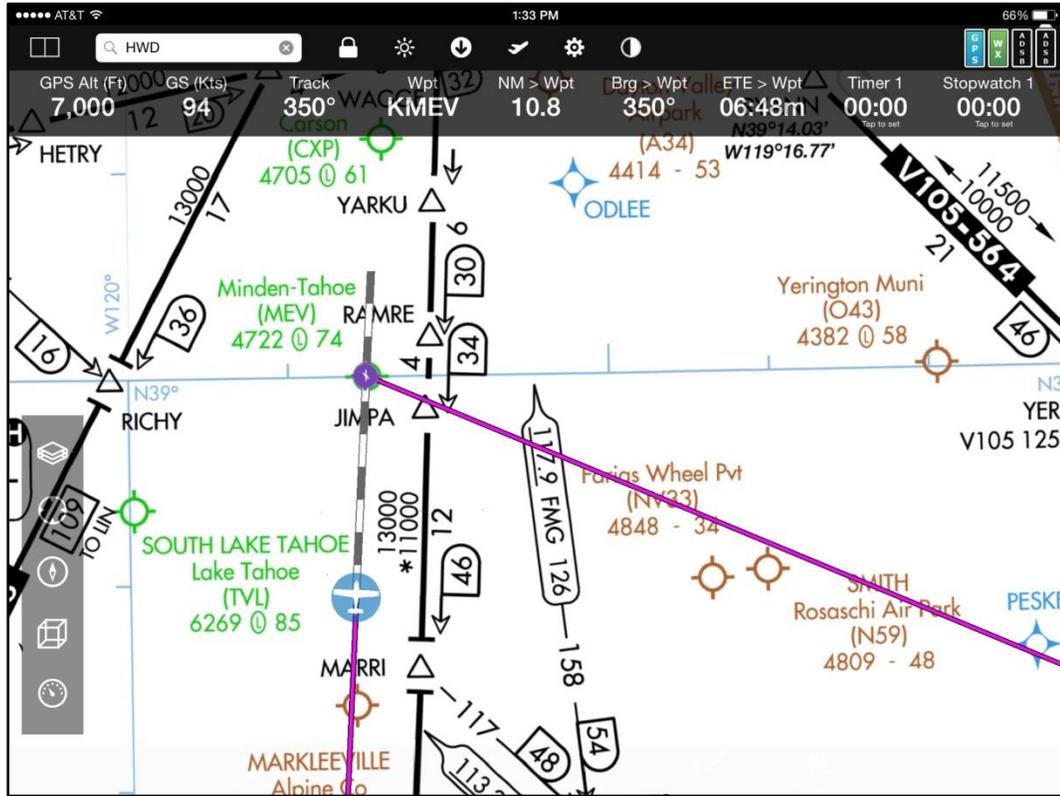
Another way to measure distance from your current location is to turn on the **Rings** layer. When enabled, you can see rings based on distance or time based on your current speed.

Tap the **Courseline and Rings** option in **Settings**  to customize this option. Select 1, 2, or 3 rings with specific distances or times between the rings or use *Auto* to let FlyQ+ EFB determine what's best given your zoom level. Rings can be spaced as close as ¼ NM (useful for CAP missions).



**Tip:** You won't see time-based rings unless you're moving.

## Extended Courseline



Select the **Courseline** layer on the map to put a line in front of the aircraft marker in terms of either a fixed distance or time based on your current speed. In either case, the line is segmented with alternating bands of dark grey and white to show each unit of either distance (e.g. 1 NM) or time (e.g. 1 minute). This makes it very easy to see and avoid airspace. As with Rings, tap the **Courseline and Rings** selection in **Settings**  to customize this option.

**Tip:** You won't see either a time- or distance-based courseline unless you're moving.

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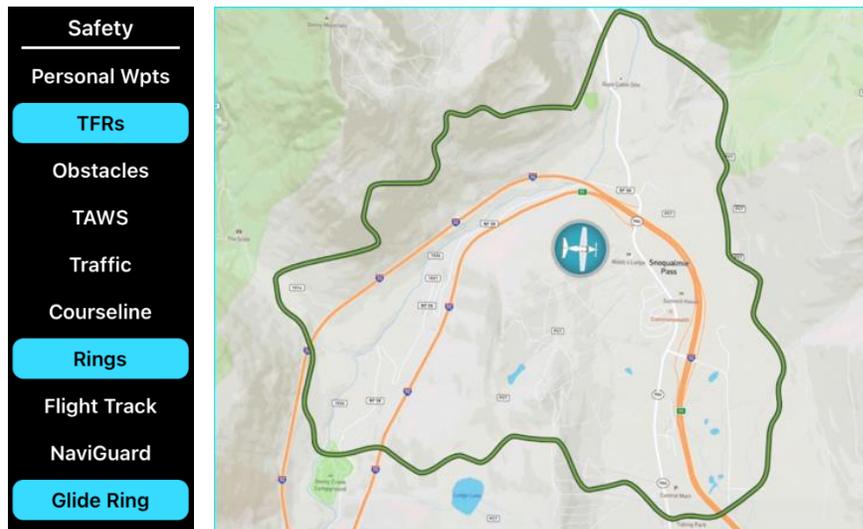
## Glide Ring

FlyQ+ includes an engine-out dynamic Glide Ring. This important safety feature uses GPS position, altitude, winds aloft, terrain, and aircraft-specific performance data to provide an indication of where the aircraft can land if the engine fails. While the feature is called a ring, its shape morphs dynamically as you fly based on terrain and winds, so it's seldom truly circular.

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**IMPORTANT: The ring is an estimate only. It also does not take man-made obstacles into account. Low resolution terrain data must be [downloaded to your device](#) for this feature to work.**

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Watch a short summary video at <https://youtu.be/kHyq7124mD0>

Enable the feature by tapping the **Layers** button on the **Maps** tab and selecting **Glide Ring** from the **Safety** section.

Uniquely, this feature helps you stay safe by showing how changing your altitude affects the glide zone. This applies both during flight and while preflight planning.

### Set Up

The ring size and shape depends on several factors, including two performance parameters of your aircraft: **Glide Ratio** and **Best Glide IAS** (Indicated Air Speed). By default, FlyQ+ uses values for a Cessna 172 (**Glide Ratio** = 8, **Best Glide IAS** = 65 kts.) For more accurate results, configure the settings for your aircraft as follows:

1. Tap **Settings**.
2. Find and tap **Aircraft profiles** from the **Flight Planning** section.
3. Tap your aircraft.
4. Enter the appropriate values found in your POH (Pilot's Operating Handbook) for **Glide Ratio** and **Best Glide IAS**.

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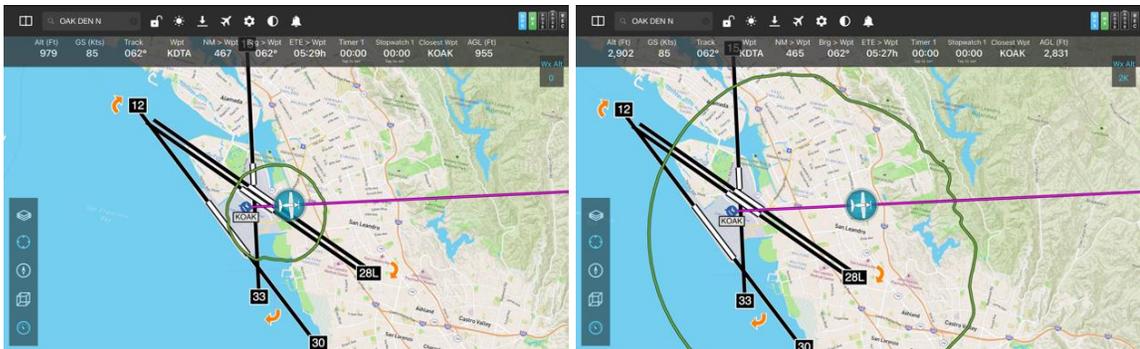
**Tip:** This must be done before flight, while connected to the Internet, because aircraft configurations cannot be changed without an Internet connection.

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See <https://youtu.be/ZP8KL4i9yA8> for more information about what these values mean for calculating gliding performance.

### During Flight

Once enabled, FlyQ+ displays a vaguely circular bounding area (*ring*) around the aircraft's position. The size and shape of the ring is based on altitude (AGL), terrain, winds at and below your current altitude, and your specific aircraft's performance. In general, the ring enlarges as you fly higher. Due to the effect of winds on gliding, the shape is seldom symmetrical.

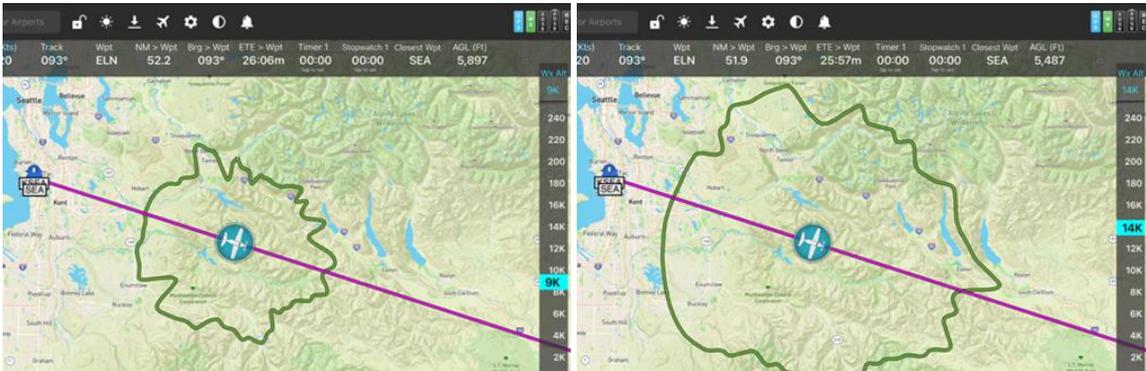


Winds can only be taken into account if they were loaded before flight or provided by an ADS-B receiver. No ring is displayed if the altitude is less than 500 ft above ground level (AGL).

### Using the Altitude Slider

The Altitude Slider can be used during flight to see how the glide area changes at different altitudes. Simply tap the map and slide the Altitude Slider to a new altitude. After you release the slider, it takes FlyQ+ a few moments to recalculate and display the glide ring. The glide ring will use the temporary altitude from the slider so long as you continue to change the altitude. FlyQ+ resets to the actual altitude after 30 seconds of inactivity.

You can find more information about the Altitude Slider on page 123.



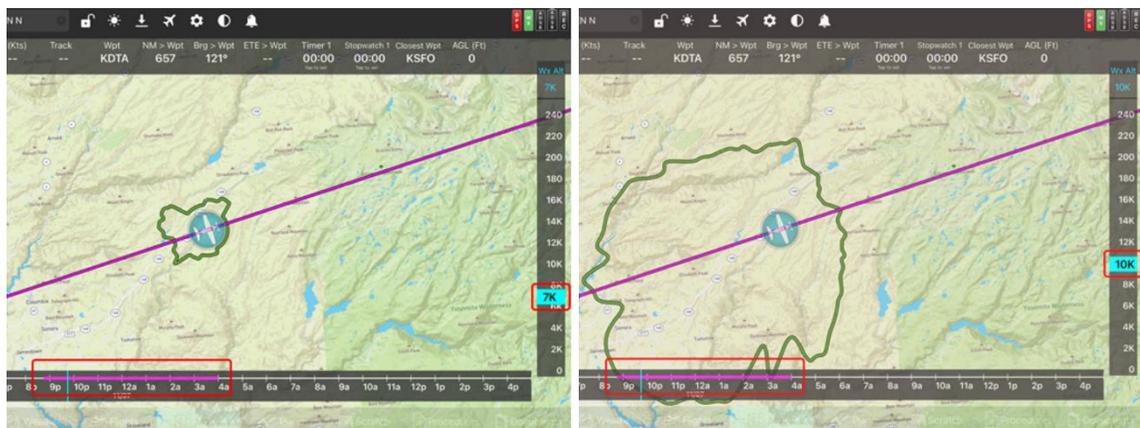
## Enable TAWS, Obstacles, and Distance Rings for Best Situational Awareness

Situational awareness is enhanced by adding other map layers in the **Safety** category such as [TAWS](#) (Terrain Awareness Warning System), [Obstacles](#), and [Rings](#). The [Rings](#) layer (not to be confused with the [Glide Ring](#) layer) adds your choice of one, two, or three rings and can base the rings on either a fixed distance or time at your current speed. All of these can be useful in different situations.

## Preflight

The best way to resolve a problem is to avoid it. The combination of FlyQ+'s [Timeline](#), [Glide Ring](#), and [Altitude Slider](#) can help you avoid dangerous situations. For example, as part of your preflight briefing, try this:

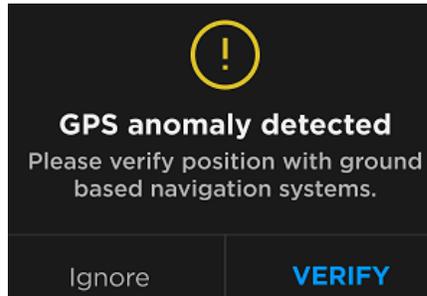
1. Load a flight plan.
2. Go to the **Maps** tab.
3. Enable the **Glide Ring** layer.
4. Enable your choice of base map (the **Road** and **Terrain** base maps can be useful here).
5. Use either the built-in Simulator or the **Timeline** to check various positions along your flight and see if the selected altitude provides a sufficient margin of safety. If not, experiment with flying at different altitudes using the **Altitude Slider**.



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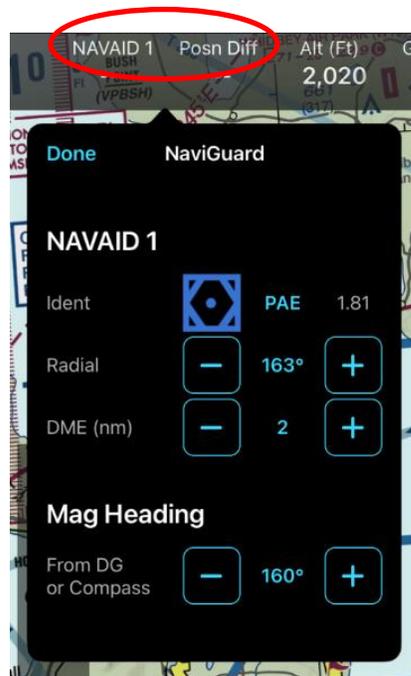
## NaviGuard and GPS Anomalies

NaviGuard checks for anomalies in the information reported by your GPS/GNSS system which may indicate interference (such as sudden changes in reported speed, direction, or position). If an anomaly is detected, a message is displayed on the screen. You can then use radio navigation to give an independent check of your location.



Simply tap the **Layers**  button on the map then select **NaviGuard**. Additional settings appear on the Gauge Bar, showing the navaid(s) you are currently using for cross-checking your position, and the distance between the location derived using the navaid and GPS.

To run a positional check, tap **NAVAID 1** in the Gauge Bar. Alternatively, tap **VERIFY** in the dialog shown when an anomaly is detected (tap **Ignore** to halt anomaly alerts for one minute).



Select a suitable navaid by tapping the identifier shown in blue and selecting from the list, or search for a navaid by name. Enter the required information for the fix from your onboard systems.

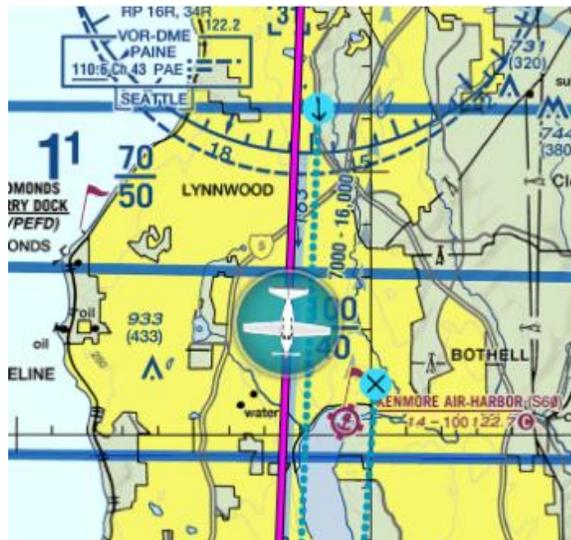
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If the selected navaid does not have DME (distance measuring equipment) then you will need to enter a second navaid to get a fix. You can also choose to enter the magnetic heading of your aircraft to add extra information to the check.

Tap **Add Fix** when finished.

The fix is plotted on the map, with an arrow showing the direction of the magnetic heading (or an X if no magnetic heading was entered). Use this to compare the difference between the GPS and the navaid-derived positions.

By default, the NaviGuard gauges will be highlighted at intervals of 10 minutes to prompt you to enter a new fix (though this can be switched off in Settings). Subsequent fixes are connected by a blue dotted line.

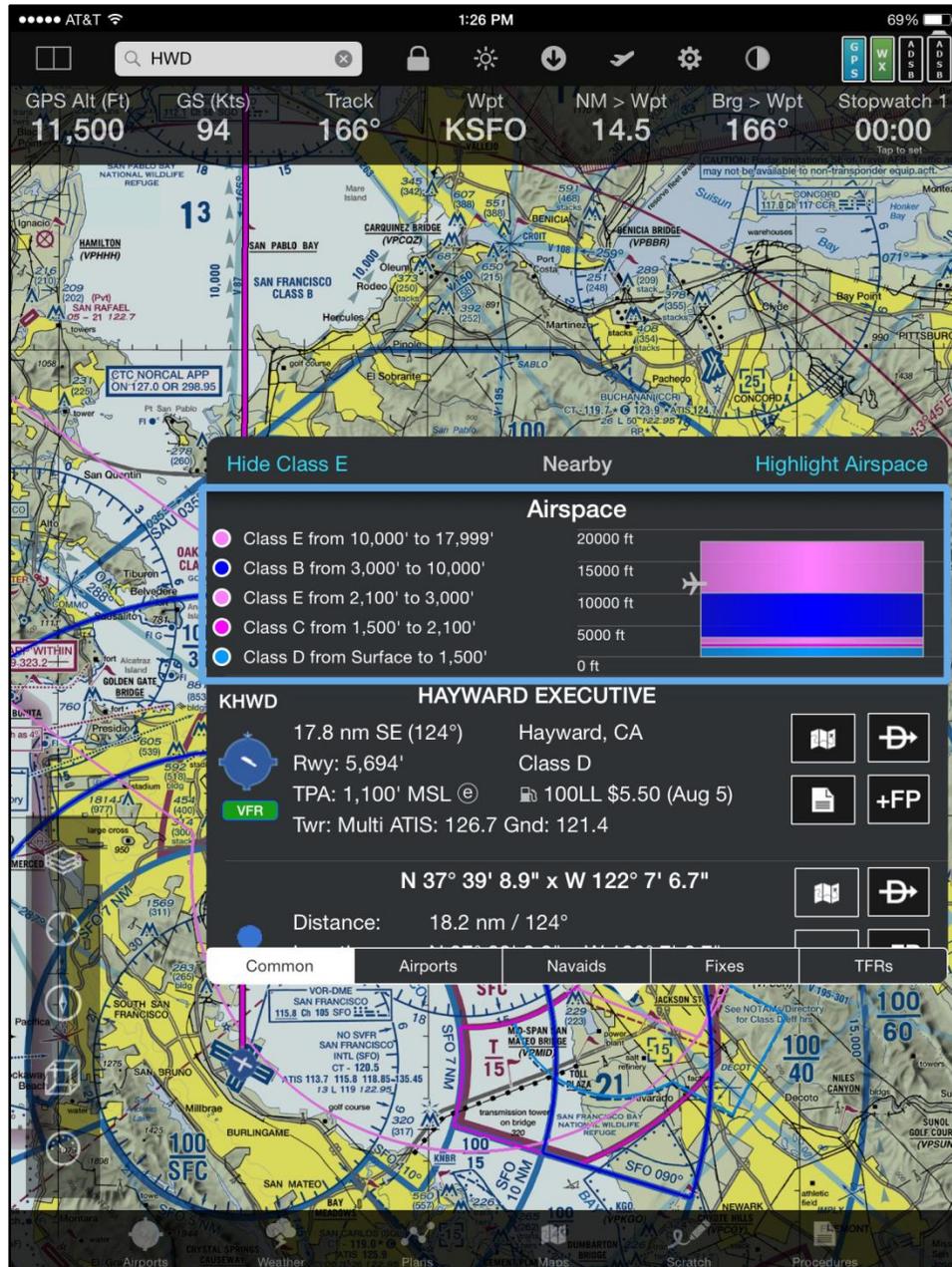


Once the flight is completed, you can view the plotted positions using the Flight Details screen in the **Flights** tab (shown on the map by ). The GPS anomalies and navaid fixes are shown in the **GPS Log** tab in the Flight Details screen.

## Airspace Info

FlyQ+ EFB has an innovative system for graphically showing you all the airspace layers you're in. In the example below, you're flying at 11,500 ft and you can clearly see that you're just above the Class B area. Tap the airspace graphic for more information including frequencies and other details that are especially useful for SUAs and MOAs.

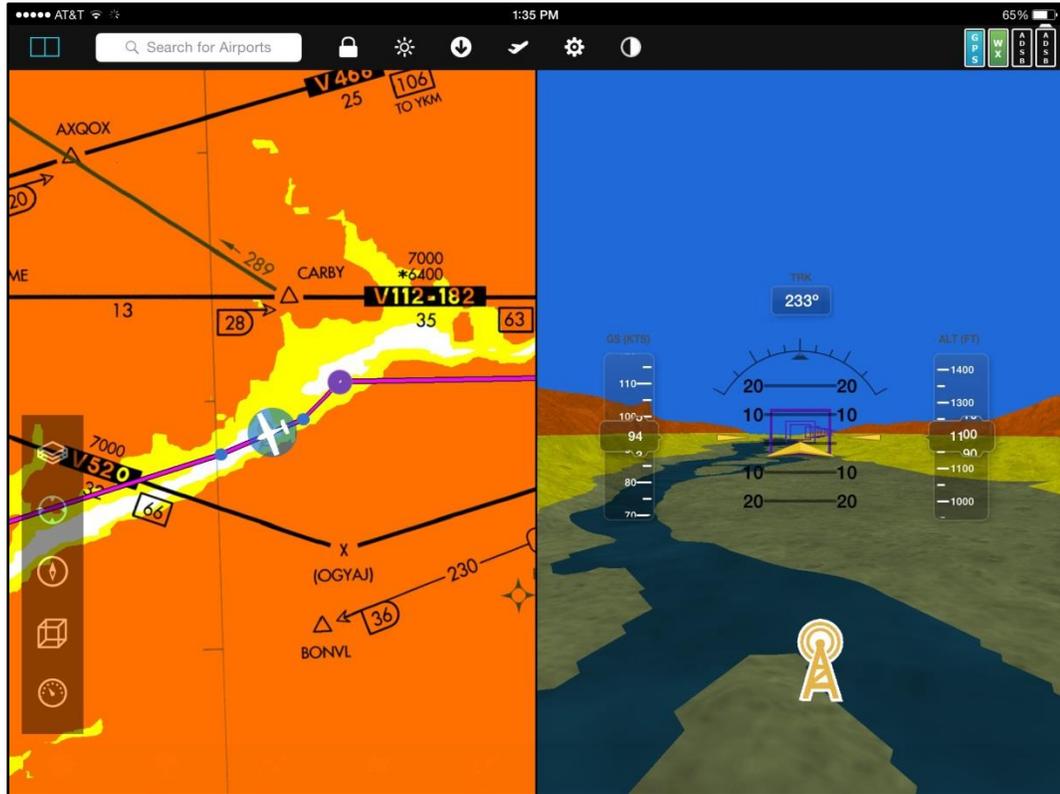
Double-tap anywhere on the map for airspace information.



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## Terrain and Obstacle Warnings

No one ever thinks they could possibly fly into the ground or hit a man-made obstacle, yet every year pilots do just that. FlyQ+ EFB makes it easy to stay clear of terrain and man-made obstacles in both 2D and 3D mode. Simply tap the **Layers**  button on the map then turn on the **TAWS** (Terrain Awareness Warning System) and/or **Obstacles** layers.



Terrain and obstacles are color-coded the same way: Red means you're either below or within 100 ft of the terrain or obstacle, yellow means you're within 1,000 ft of it. Terrain that isn't a factor is left in the color of the original map. Obstacles that are of no concern are blue.

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**Tip:** If TAWS is on while you're pre-flight planning (that is, on the ground), the maps will appear yellow or red. You can disable TAWS unless you're actually moving, even if the TAWS layer is on, via the **Only show TAWS when moving** option in [Settings](#) (page 164).

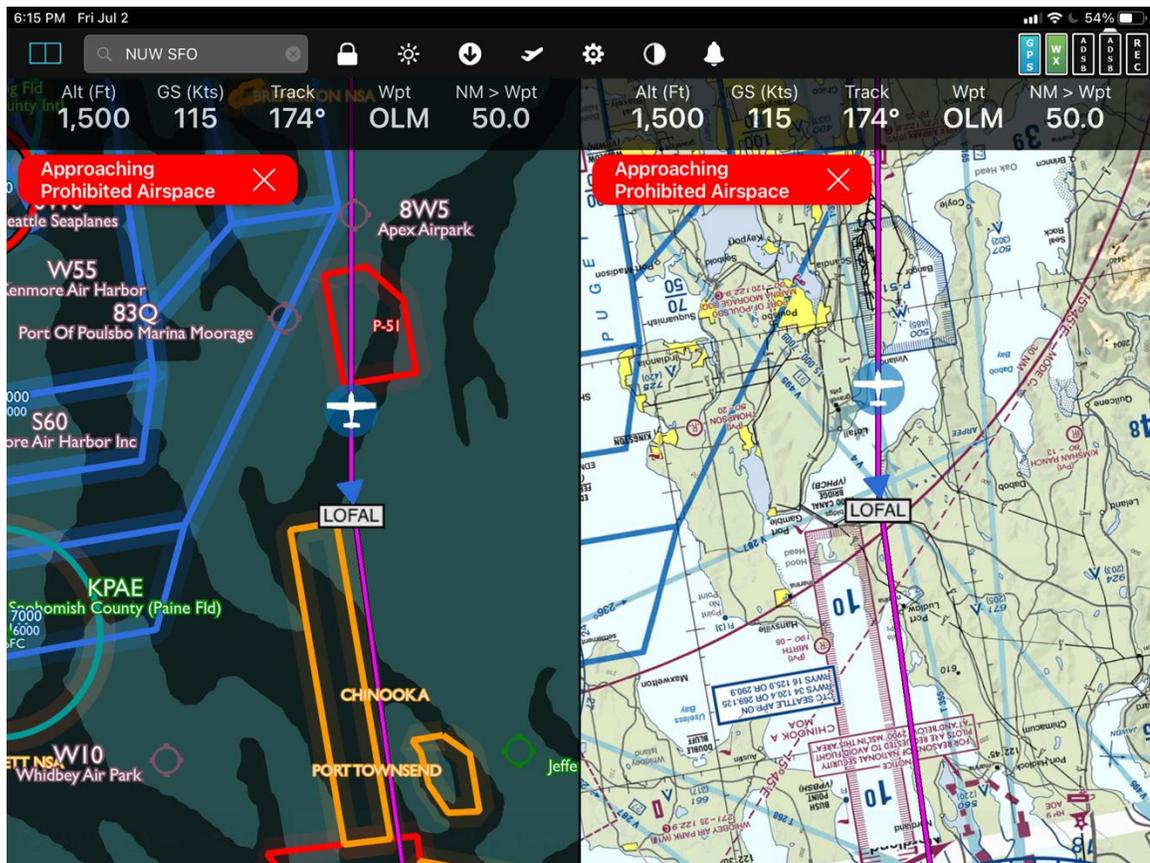
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FlyQ+ EFB adds a system for detecting obstacles you're most likely to hit based on your altitude, speed, and course. When FlyQ+ EFB detects such obstacles, you'll see a red pie-shaped cone in front of the plane (in 2D maps only) and a clear warning message in bright red urging avoidance.



**Tip:** The pie-shaped cone normally appears only when an obstacle is a threat. You can turn the cone on all the time by selecting **Always show obstacle detection area** in [Settings](#) (page 164). The cone color will indicate when threats are detected (red) or not detected (green).

## Airspace Warnings



FlyQ+ EFB uses your current altitude and course to warn when you're about to enter (or are already in) controlled airspace. By default, FlyQ+ EFB alerts you with a text pop-up, an audible (spoken) warning, and the airspace highlighted on the map.

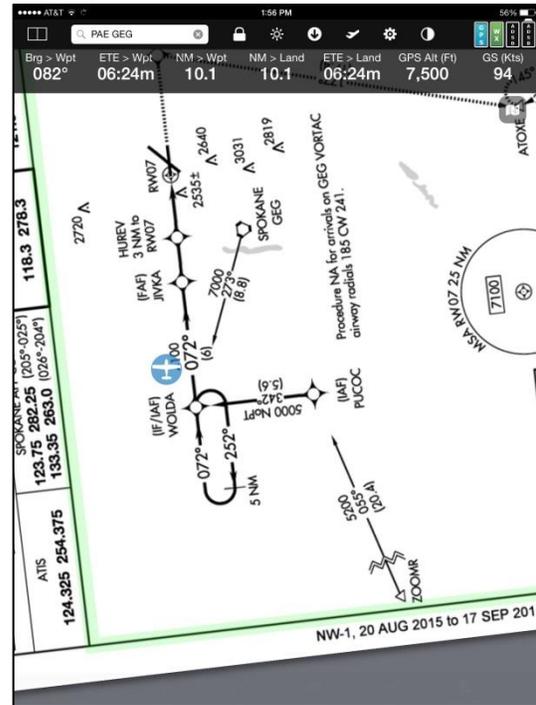
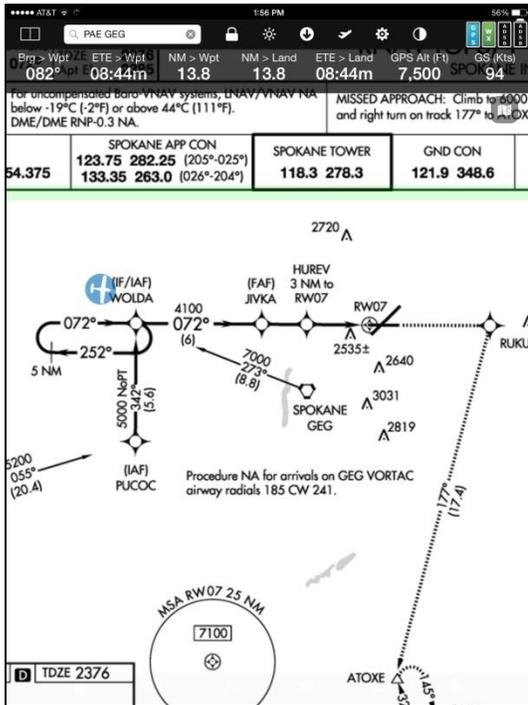
- Dismiss text pop-ups by tapping the X in the corner of the pop-up.
- Use the **Alerts** section in **Settings** to control which types of warnings you prefer to receive.

**Tip:** FlyQ+ EFB uses your 3D position, including altitude, to compute airspace warnings. Therefore, you will not receive a warning if you are flying above or below controlled airspace that you see on the 2D map.

# Approach Procedures

FlyQ+ EFB was designed to help IFR pilots and, for this reason, the **Procedures** tab does far more than just show geo-referenced approach procedures.

Select an airport using any method (enter an ident on the top **Search Box**, use the **Airports/Nearest** function, double-tap on the **Map**, tap an entry in **Plans/NavLog**, etc.) then use the **Procedures** sub tab to select a procedure. In addition, FlyQ+ will automatically select the airport diagram for your destination airport if you load a Flight Plan or change your destination.



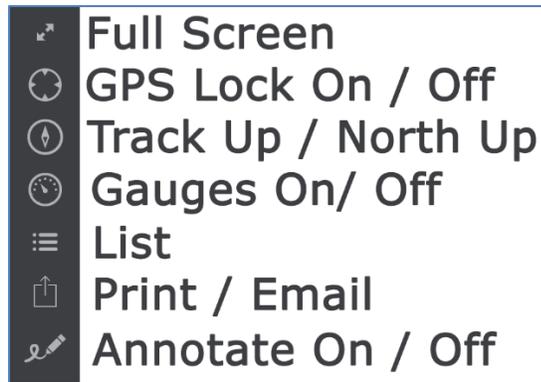
## Using Procedures

### Swipe between plates

Use a single finger to swipe left or right to select procedures/diagrams.

### Toolbar

Tap the procedure and a toolbar appears for 6 seconds then fades away so you can see more of the plate itself. In [Settings](#) (page 164), you can configure this delay to 2 seconds, 6 seconds, or never fade away.



### Full Screen button

Tap to show the current procedure/airport diagram using most of the iPad/iPhone screen. Use the **Close** button in the Full Screen view to return to the normal view.

### GPS Lock (Center) button

Similar to the **GPS Lock** button on the map, engaging this moves the procedure or airport diagram around your position rather than move the aircraft icon around the procedure/diagram. Once selected, tap again to zoom-in. The button disengages when you manually move the procedure.

### Track Up button

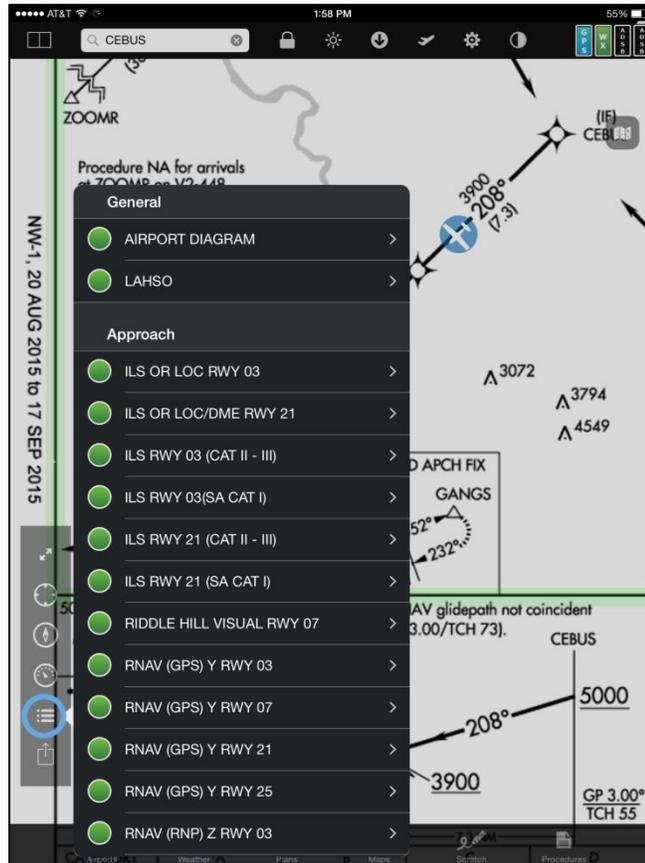
As with the **Track Up** button on the map, turning this on rotates the procedure or airport diagram as you fly such that what's ahead of your aircraft is always above you on the screen.

### Gauges button

Switches the Gauge Bar on and off, just like it does with maps.

### List button

Rather than swipe between plates, tapping the **List**  button shows a list of all the procedures/diagrams at the selected airport so you can immediately jump to any procedure or diagram. On an iPad, the List pop-up stays up until you tap off it so you can preview multiple procedures before you make your choice.

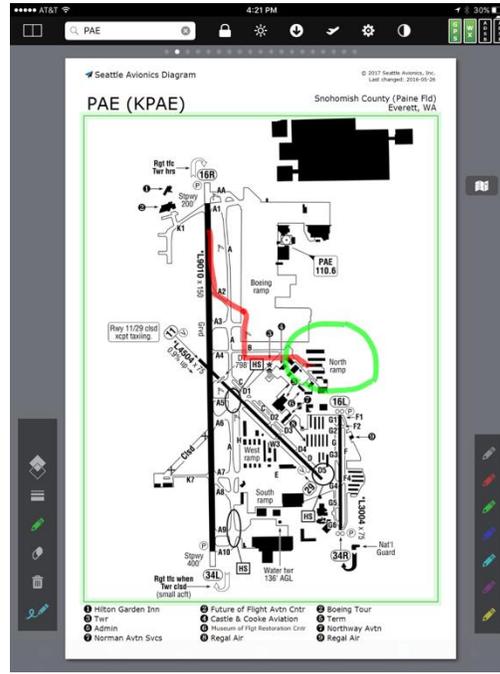
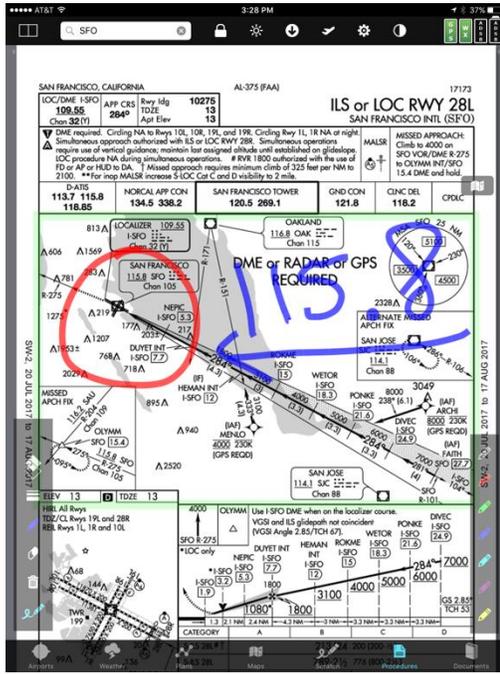


### Action (Email/Print) button

It's good practice to keep a few printed procedures in the aircraft in case your iPad or iPhone fails. Use the **Action**  button to send the selected procedure to an [AirPrint compatible printer](#) (such as an HP wireless printer) or email it to you someone (such as yourself) to print on any other printer.

### Annotate button

You can annotate plates and diagrams by writing on them with your choice of pen colors, widths, and degrees of transparency. This is helpful to note frequencies, ATIS, etc. or draw taxi instructions on the FAA or Seattle Avionics Airport Diagrams.



When Annotate mode is on, the toolbar on the left side is replaced with one that includes drawing tools. Tap the blue Annotate button again to end annotation mode and return to normal viewing mode.

They are (top to bottom): *Line opacity*, *Line weight* (thickness), *Pen mode* (the default), *Eraser mode*, *Trash* (erase all annotations), and the *Annotate* button itself.

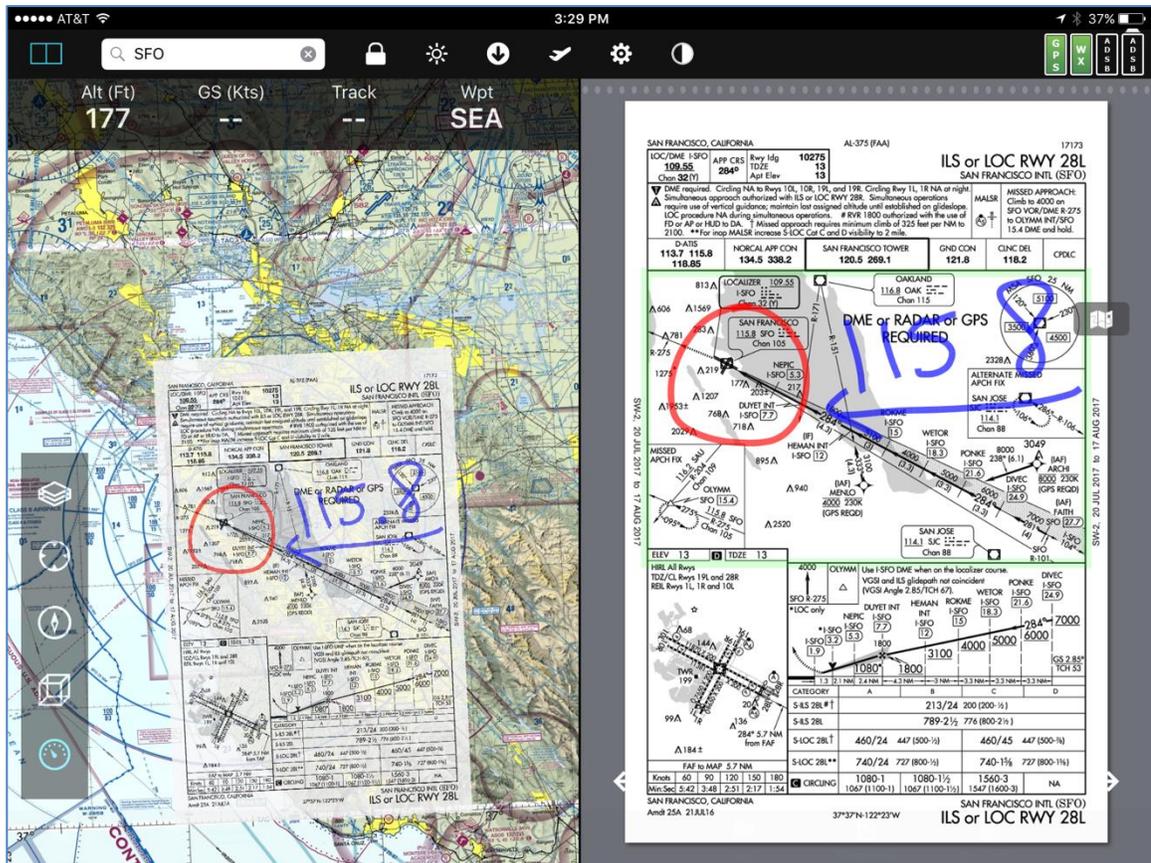
**Note:** Changing the opacity or weight shows a secondary pop-up. Once you select the new opacity or weight, you cannot draw again until you tap off the pop-up to dismiss it.

Another toolbar is also added on the right side with pen colors.

In Annotate mode, you can zoom a document in or out but cannot pan left or right since moving your finger across the diagram will draw a line.

### Map button (upper right corner of an approach plates)

Procedures can be shown on a map as well as in the **Procedures** tab. Tap the **Map** button to show this procedure on the map and zoom to the center of the airport (not necessarily the procedure). This is only available for IAPs and Airport Diagrams. Once a procedure or diagram is selected, switching to another procedure or diagram automatically shows the new item on the map rather than the original one.



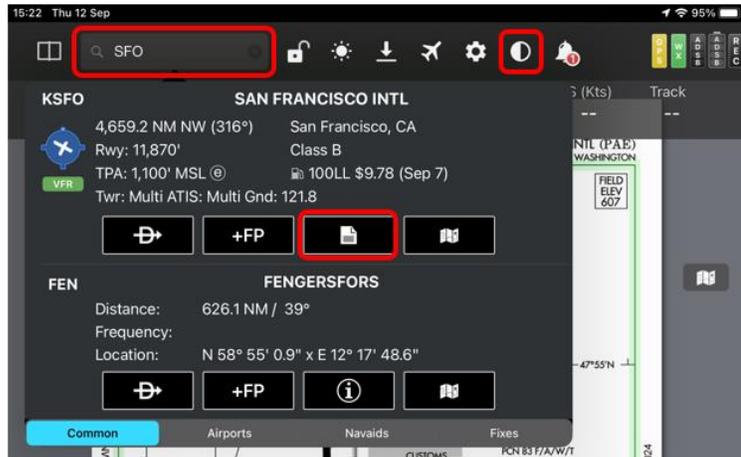
**Tip: Procedures** is a map layer so use the **Layers** button on the map to remove the procedures from the map.

+FP button (upper right corner of a SID/STAR)

You can add all the NavLog entries for a SID or STAR with a tap. Once added to the NavLog, tap **-FP** here to remove it. Only available for SIDs and STARs.

Search box (on the main toolbar at the top of the app)

Enter an ident or airport name to select a different airport then tap the **Procedure** icon that appears in the search results. For example, *SFO* below.



## Night mode

Night Mode  is a general function that applies to maps as well as procedures and diagrams. When Night Mode is on, black and white are reversed while other colors (such as terrain contours) are preserved.

The Night Mode switch is on the main toolbar at the top of the app (shown above).

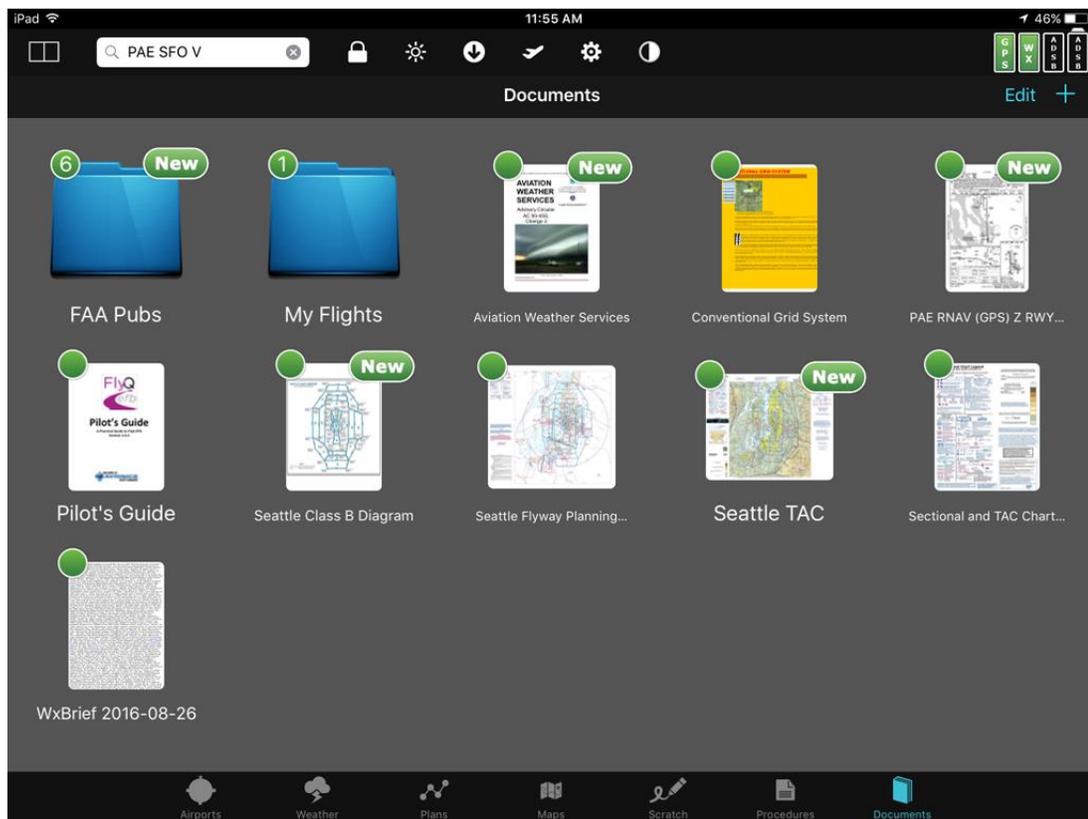
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# Documents

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## Overview

The **Documents** tab gives you immediate access to a library of more than 200 FAA publications and charts (Flyway charts, helicopter charts, etc.), weather documents, Seattle Avionics documents, legends, and more. You can also easily add your own documents by entering a URL or emailing them to your iPad or iPhone. You can even tap to add photos already on your device.



FlyQ+ EFB automatically downloads new versions of documents as they become available. For example, if you download the full Seattle TAC, FlyQ+ EFB will automatically download the new TAC when the FAA updates it. Unlike the ChartData Manager, document updates are automatic and happen in the background.

By default, you'll see the *FlyQ+ EFB Pilot's Guide* and the *Sectional and TAC Legend*. Use the + button to add more documents.

Each document has a colored status dot icon in the upper left corner:

- *Green*: downloaded and ready for offline use.
- *Yellow*: in the process of downloading.
- *Red*: not downloaded.

Documents have a **New** label in the upper right corner when they've been downloaded but not yet opened. **New** also appears if the source document gets updated (like a new version of an FAA chart).

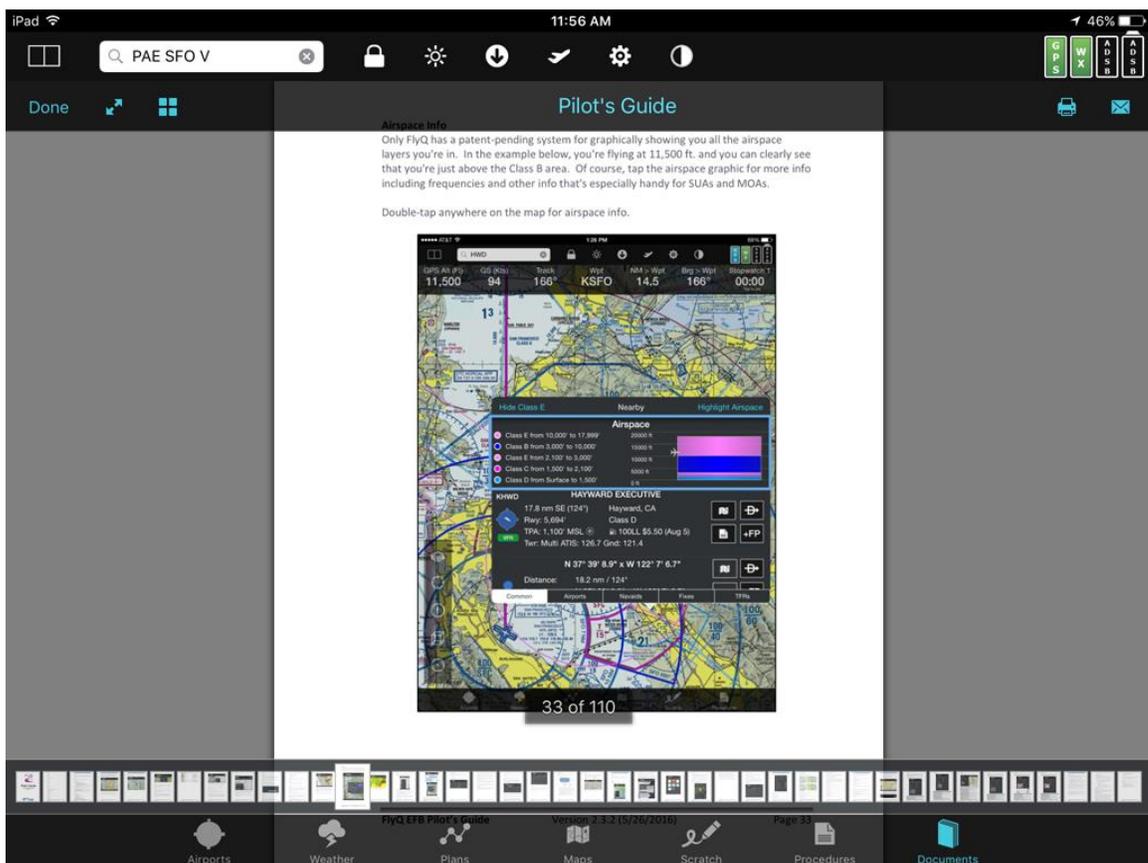
Folders have numbers within their status icons that show the number of documents and folders they contain (including subfolders). For space reasons, this number will show as '...' if a folder contains 20 or more documents.

Folder status icons are based on the worst case of the documents within it. For example, a folder with five downloaded (green) documents and one document not downloaded (red) will show as red.

FlyQ+ EFB creates thumbnail images for loaded documents except on older iPads where you see a generic icon based on the document type in some cases (this is not a bug but a limitation of these iPads).

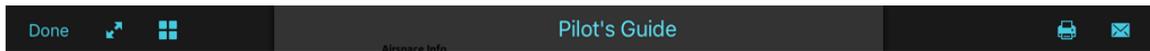
## Viewing a Document

Tap any document icon to show the entire document or image. Large images or PDF files may take a moment to load, especially on older devices.



Swipe left and right to view multi-page PDF files.

A toolbar at the top of the screen will appear for a few seconds then fade-out (unless you have tab bar fading disabled in **Settings**). Tap the document to make it re-appear.



Tap **Done** to close the document and go back to the list.

Tap the **Full Screen**  button to view the document using the whole screen (especially useful when you're using split-screen mode).

Tap the **Thumbnails**  button to see large previews of all the pages in a PDF and jump directly to any of them. This button is only shown for PDF files, not for graphics or other types of documents.

On an iPad, tap the name of the document (*Pilot's Guide*, in this case) to rename it. On an iPhone, you can't rename a document from this screen but you can rename it using the **Edit** button when looking at a list of documents.

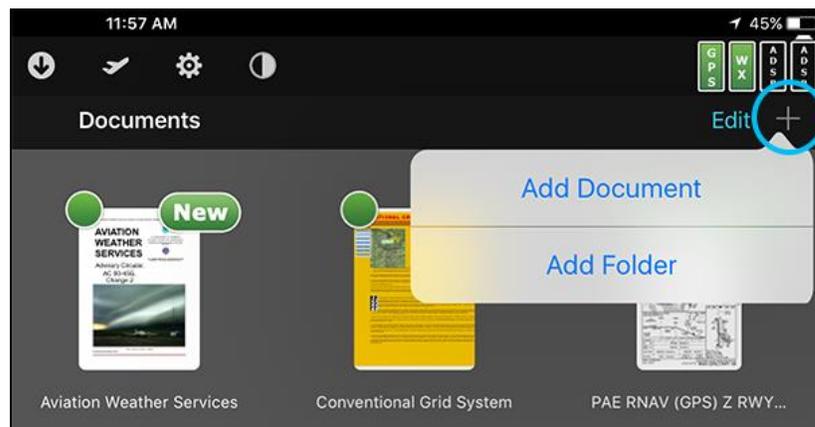
Tap the **Print**  button to print to an [AirPrint compatible printer](#) or use the **Email**  button to email the document to yourself so you can print from a PC or Mac.

PDF documents also have a lower bar that shows small previews of all the pages in the document. Tap an image or slide your finger to jump immediately to another page.



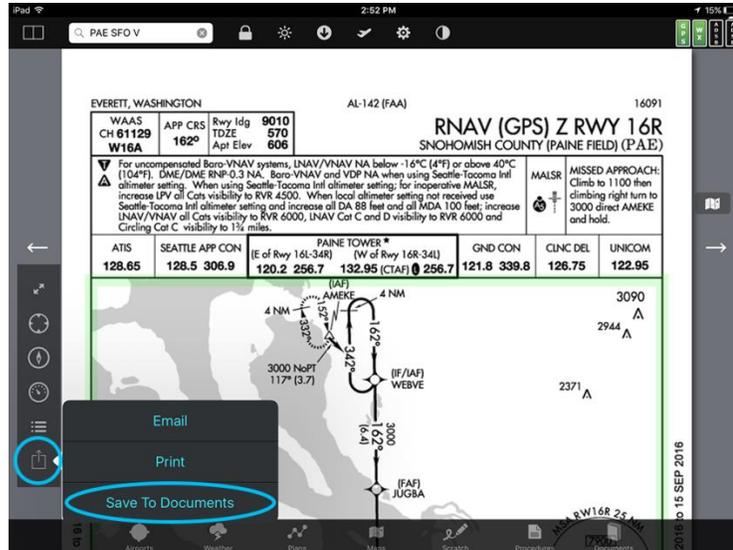
## Adding Documents

The **Documents** feature of FlyQ+ EFB allows adding documents that we've created or collected for you (from the **Library**) and there are several ways to add your own, unique documents and images. Currently about 200 documents are available in the **Library** with more being added all the time.



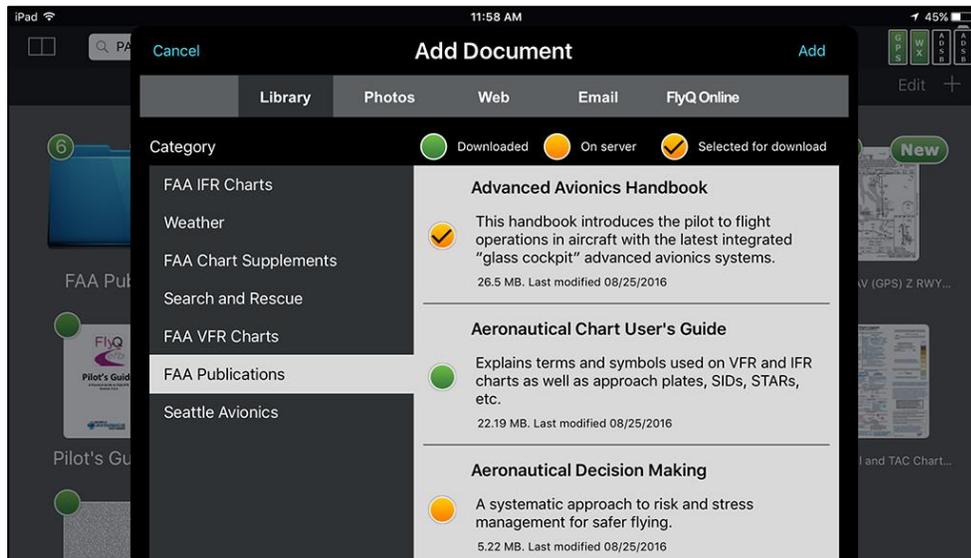
Tap + then **Add Document** to add one or more document. Tap to select as many documents as you like from the **Library** list or use the **Photo, Web, Email, or FlyQ+ EFB Online** tabs to select documents in other ways. Tap the **Add** button to complete the selection. Documents are added to the folder that is currently open.

Weather briefings, accepted flight plans, procedures, and airport diagrams can be stored as Documents using the **Action**  button on the each of those tabs. **Note:** Procedures and airport diagrams selected in this way are static pictures only; they are not geo-referenced.



## Library

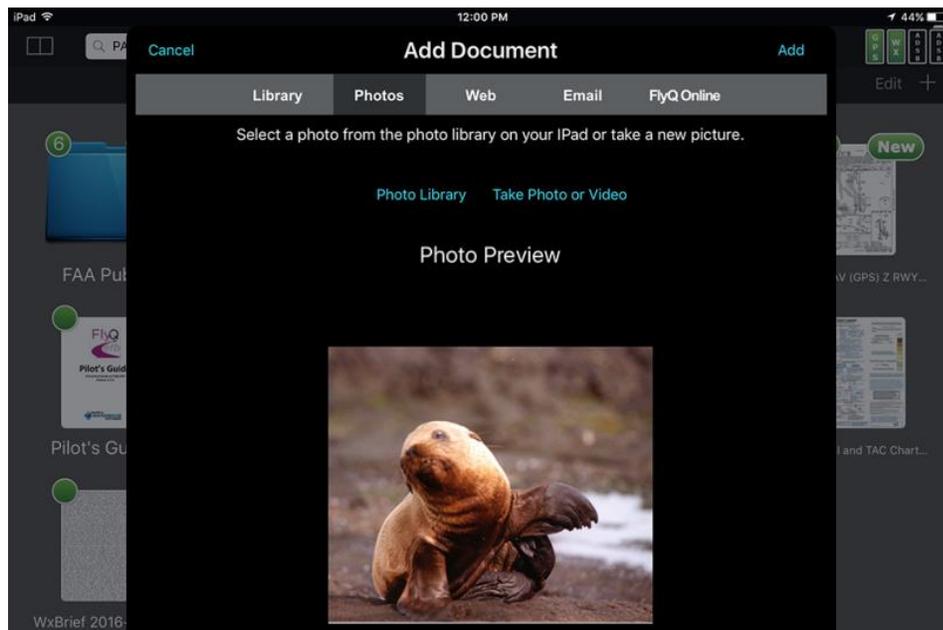
The library documents are grouped by category. Select a **Category** on the left then select one or more documents on the right. Documents already on your device have a green icon, those not yet downloaded are orange, and ones selected for download have a checkmark. Each document can only be put into one folder.



Tap the **Add** button at the upper right to add all of the documents with an orange checkmark.

## Photos

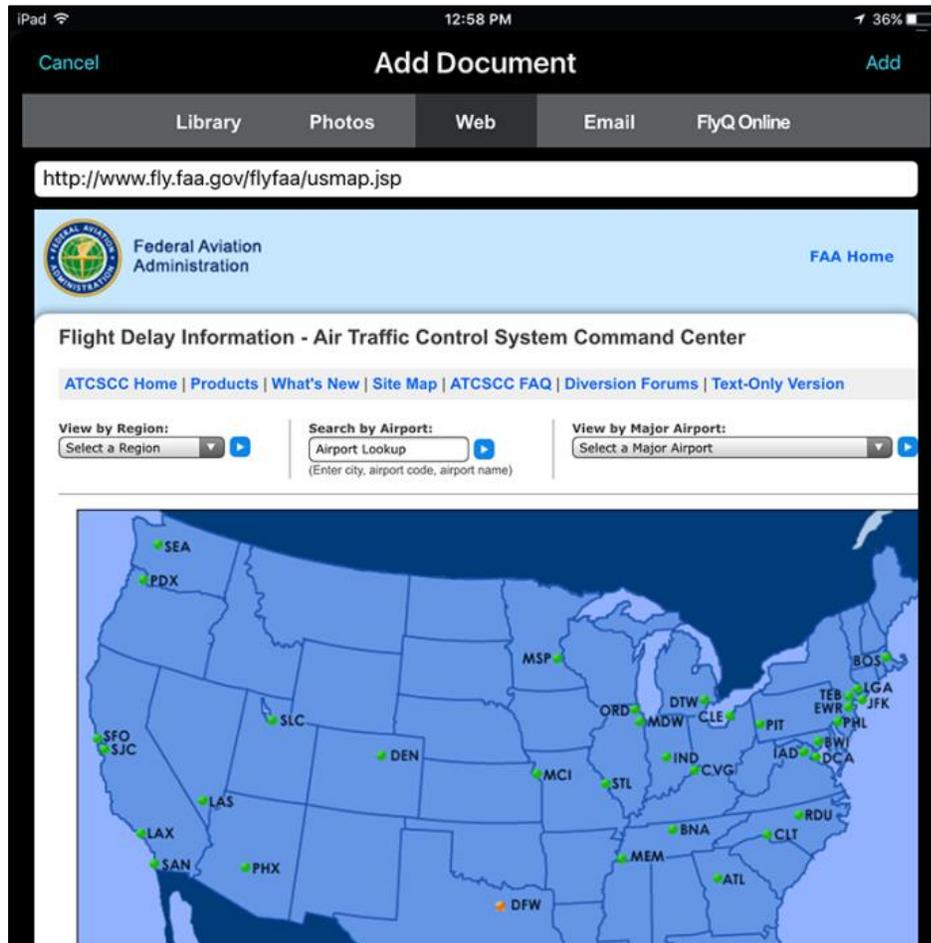
You can copy any image or video already on your device to the **Documents** system or even take a new photo or video. Select either **Photo Library** (existing image or video) or **Take Photo or Video**. Tap the **Add** button in the upper right corner to add the selected image or video.



## Web

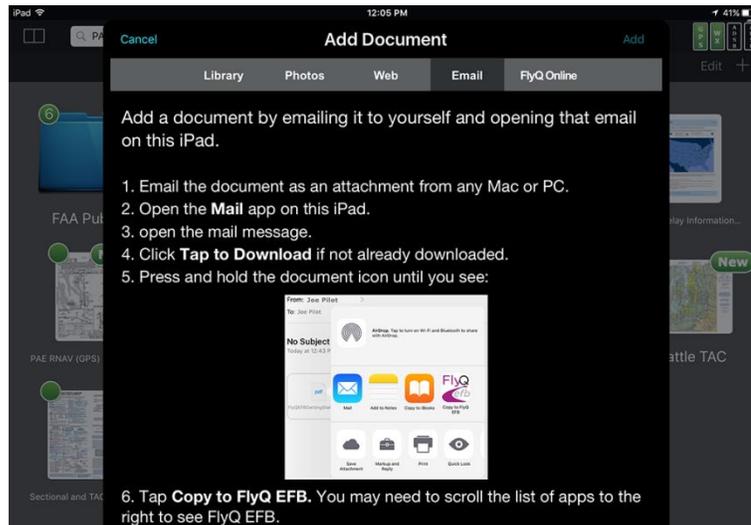
You can browse to any online page, image, or document (including Word and Excel documents) by entering its URL. Enter the URL in the top bar and press the blue **Go** button on the pop-up keyboard. The page, image, or document will be displayed in the main window if the URL is valid. Tap the **Add** button in the upper right corner to add the page, image, or document.

**Note:** The system monitors these documents for changes and automatically downloads them to your device if the originals change.



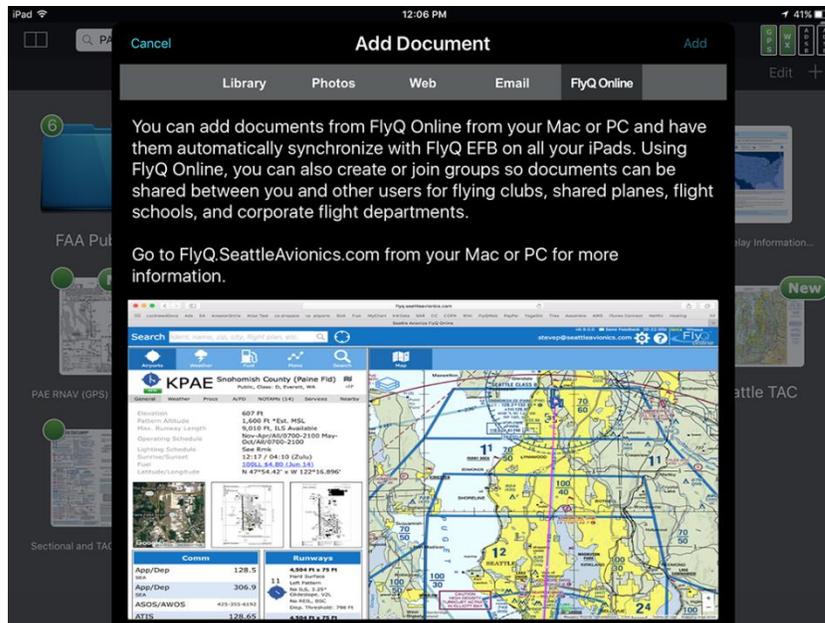
## Email

You can add documents by emailing documents from your PC or Mac to yourself.



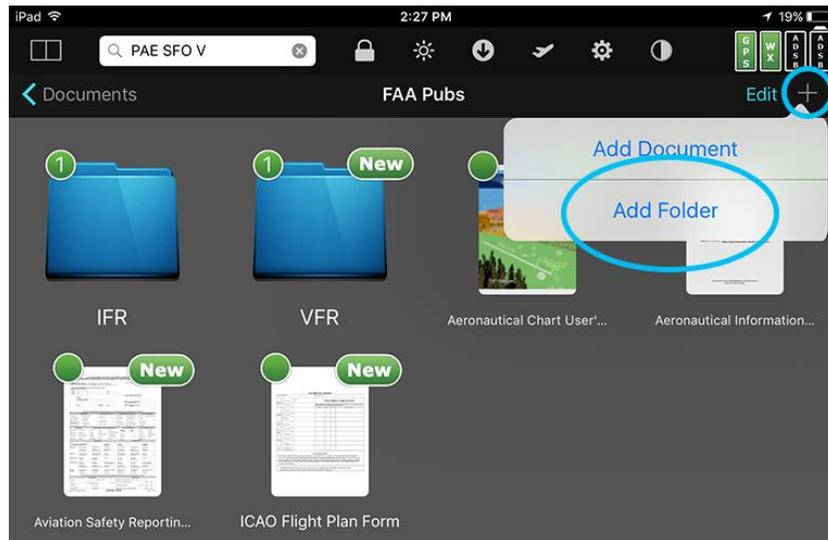
## FlyQ+ EFB Online

You can add and manage documents from FlyQ+ EFB Online (<https://FlyQ.seattleavionics.com>) using your PC or Mac.



## Organizing Documents

Documents can be organized into folders and even subfolders for your convenience. Tap **+** and then **Add Folder** to add a new folder within the current one. Tap a folder to open it. Use the back button at the upper left of a folder to navigate to the previous folder.



## Moving Documents and Folders

Documents and folders can be moved to another folder in two different ways:

1. Tap the **Edit** button then drag a document or folder into a folder on the screen. Tap **Done** when finished moving items.  
**Note:** You must tap **Edit** to move a document or folder to guard against inadvertent moves.
2. Tap the **Edit** button then tap the main area (not the **X** in the corner) of a document or folder. Select the new location for the document or folder. Tap **Done** to end edit mode.

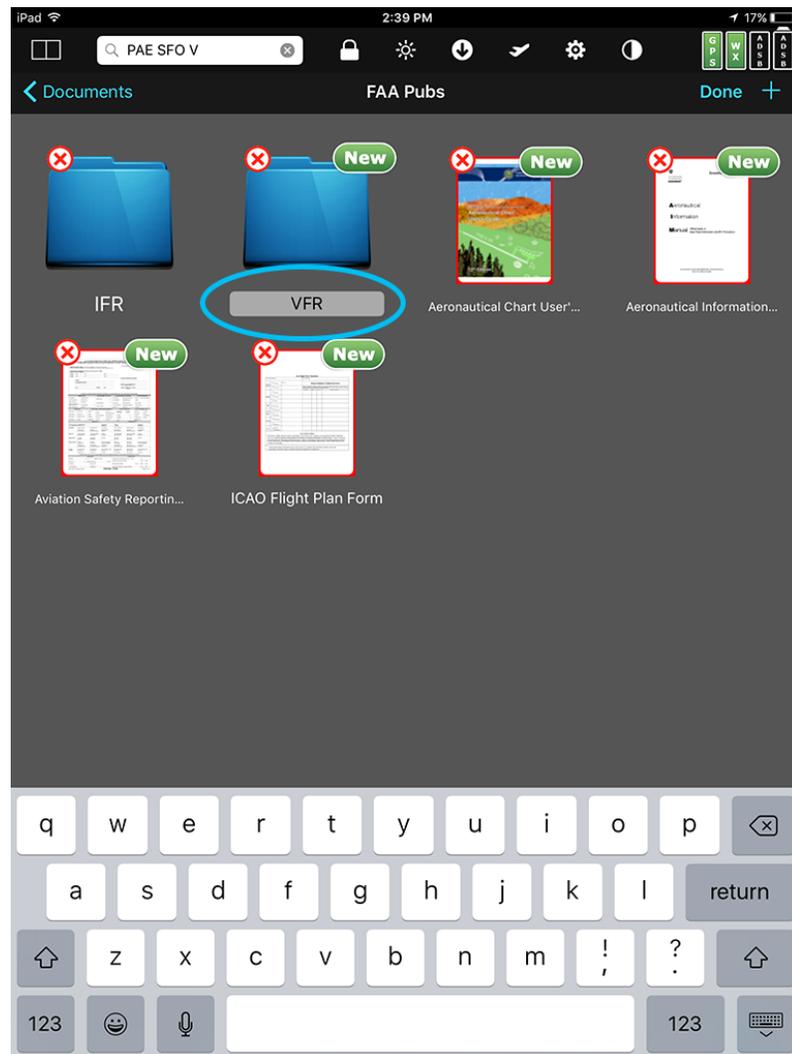


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## Renaming Documents and Folders

Rename a document that is being viewed by tapping its name at the top of the screen (iPad only).

Rename a document or folder by tapping the **Edit** button in the list view then tapping its name in the list. Tap **Done** to end edit mode.



## Deleting Documents and Folders

Tap the **Edit** button in the list view then tap the **X** in the upper left corner. Tap **Done** to end edit mode.

**Note:** Deleting a folder also deletes all documents and subfolders within it.

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**Tip:** Tap off the document and try again if you miss the **X** and tap the main body of the document or folder (which is interpreted as a move to another folder).

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## Sharing, Printing, and Emailing Documents

Documents and folders are automatically shared between all devices running FlyQ+ EFB and (soon) FlyQ+ EFB Online so long as you login with the same email address. No action is required.

**Note:** Deleting a document or folder from one FlyQ+ EFB application will also delete the document or folder from other devices running FlyQ+ EFB when the other devices starts or performs a periodic background synchronization (it's not immediate).

Tap the **Printer**  button to print a document being viewed to a [compatible AirPrint wireless printer](#).

Tap the **Email**  button to email a document to yourself or anyone else. Email must be properly configured on the iPad/iPhone for this to work.

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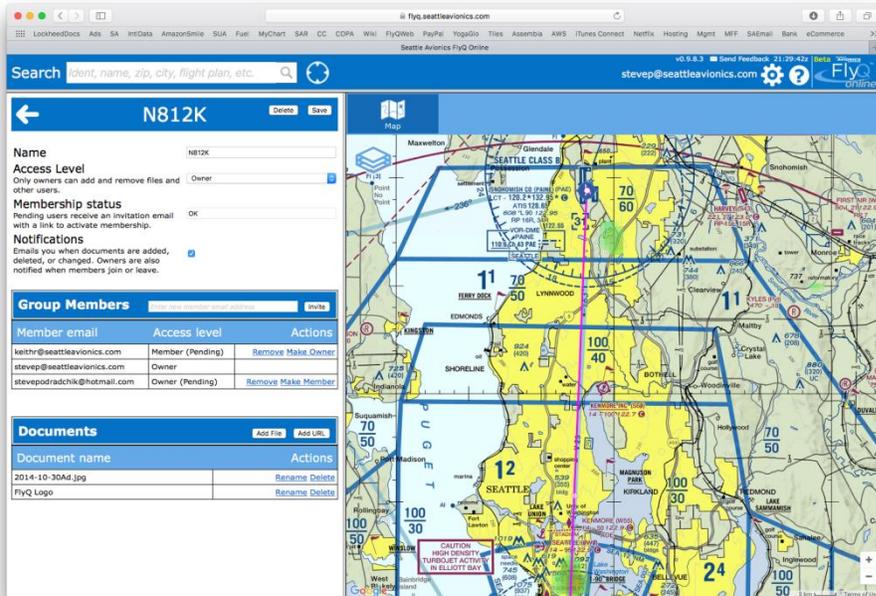
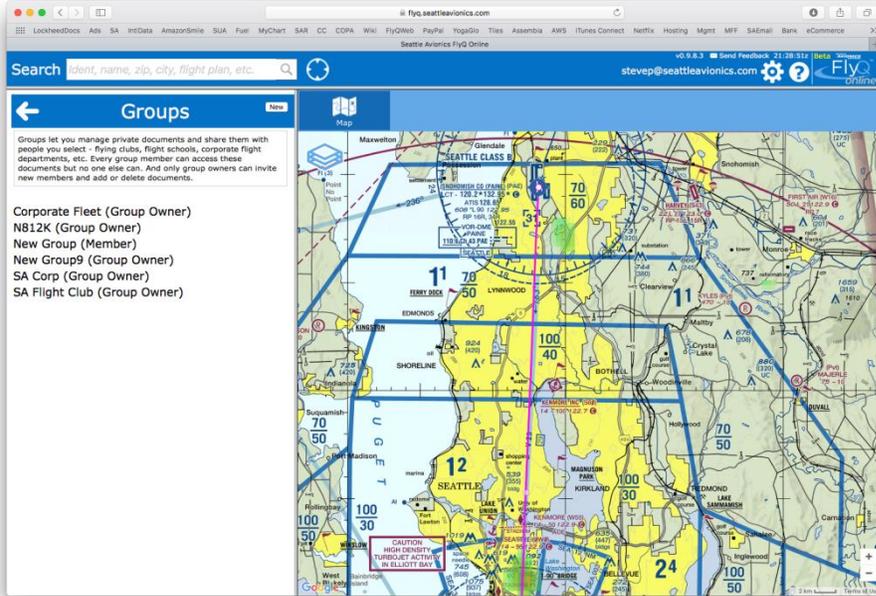
**Tip:** If you don't have an AirPrint compatible printer, email the document to yourself and print from a PC or Mac.

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## Creating and Managing Private Groups and Documents

FlyQ+ EFB Online lets you can create and manage your own groups of pilots and share private documents within the group. The documents in these groups can be added to FlyQ+ EFB the same as you would add documents in the built-in groups (Seattle Avionics, FAA VFR Charts, FAA IFR Charts, Weather, FAA Publications, etc.). This is especially useful for flying clubs, shared planes, and corporate flight departments.

See <https://FlyQ.seattleavionics.com> for details (select the **Documents** tab then click **Groups**) or watch the video at: <https://www.youtube.com/watch?v=3pTEw24LZpQ&t=6s>.



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# Flight Plans

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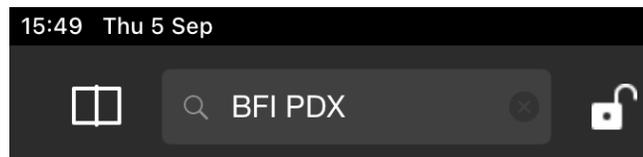
## Creating a Flight Plan

FlyQ+ EFB makes it very easy to create an ideal, wind-optimized flight plan any way you prefer. It can even automatically plan fuel stops in a way that takes into account fuel prices and how far out of your way each potential fuel stop is located.

Plans can be created whether you're connected to the Internet or not but some advanced features, such as recently cleared ATC routes, are only available when online.

Flight plans created when you're online are automatically available on any device running a FlyQ+ EFB application such as FlyQ InSight for the iPhone, FlyQ Pocket for Android, or FlyQ+ EFB Online from your PC or Mac.

### Create Using the Search Box



Enter a series of identis into the top **Search Box** and FlyQ+ EFB will automatically plan a flight. For example, enter *BFI PDX* and FlyQ+ EFB plans a flight from KBFI (Boeing Field, near Seattle) to KPDX (Portland, Oregon).

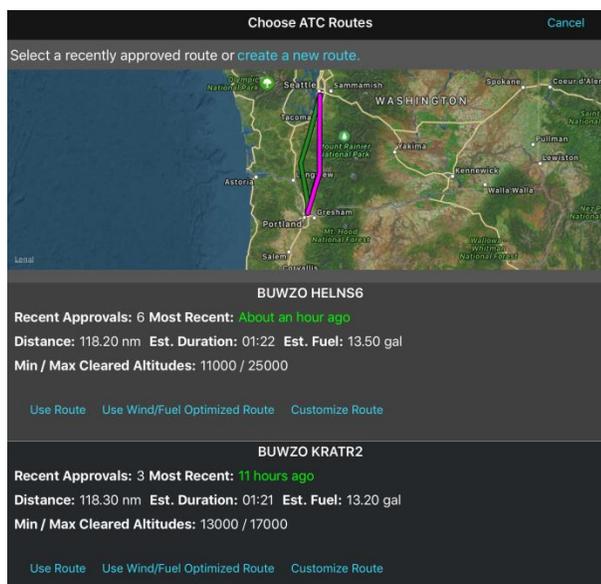
Note that you don't have to add the K prefix to the airport identis.

In addition to airports, you can enter identis for nav aids, fixes, Victor or Jet airways, latitude/longitude locations, intersections of two radials, or points relative to nav aid or fix. See the [Waypoint Entry](#) section on page 107 for details.

The way the app plans the flight depends on whether your default plan type is IFR or VFR. See the **Defaults** section below for more information on how to specify default settings.

### IFR Flights

Using the example above of *BFI PDX*, FlyQ+ EFB will look for recently cleared ATC routes between BFI and PDX and present you with a choice of which to use if any are found. You'll see the distance for each route as well as an estimate of flight time and fuel required. FlyQ+ EFB also shows when the route was last approved, how often it has been approved in the past few days, and the minimum and maximum approved altitudes.



Tap a route to see it highlighted in magenta (such as *BUWZO KRATR2* above).

Tap **Use Route** to use a route exactly as stated using the average of **Min** and **Max** altitudes.

Tap **Use Wind/Fuel Optimized Route** to use the route but optimize for best winds and ignore the Min and Max altitudes, yet always stay within the service ceiling of the plane. Fuel stops will be added if necessary.

Tap **Customize** to open the **New Plan** section (described below), adding the route and altitude from the ATC route but allowing you to customize all planning parameters.

Tap **Create a new route** to ignore all the suggestions and plan the flight using your default routing method and default preference for adding fuel stops or not.

If no recently cleared routes are found between the two points, FlyQ+ EFB creates a route based on what ATC is most likely to assign.

FlyQ+ EFB cannot search for ATC routes if you enter more than two idents, such as *BFI ARPEE PDX*. Rather, it will plan a route between all of the points using your default routing method.

You can also disable searching for ATC routes in **Settings > Defaults**.

## VFR Flights

FlyQ+ EFB will route using your default routing method and default preference for adding fuel stops or not. See **Defaults** below for more information.

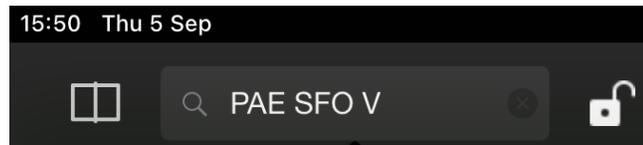
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## Specifying a Routing Method

Regardless of your default routing method or whether you prefer IFR or VFR, you can force a particular routing method by adding a one letter suffix to your plan:

Suffix	Effect
V	Route via Victor airways.
J	Route via Jet airways.
G	Route using Terrain Avoidance (was previously called GPS Direct).
N	No routing, just the points in the Search box.
W	No routing but wind-optimize and add fuel stops, if required, based on lowest prices.
I	Route as an IFR flight and look for ATC routes. Mostly useful if your default plan type is VFR but you want to plan an IFR flight.

If you add a routing suffix other than *I*, FlyQ+ EFB will use your routing method and not search for recently cleared ATC routes even for IFR flights. For example, *PAE SFO V* will produce a Victor route from PAE (Paine Field, near Seattle) to SFO without regard to your default routing method.



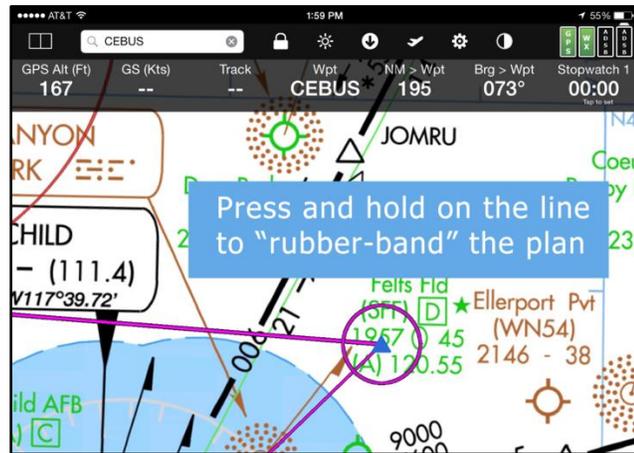
## Defaults

Tap **Settings**  then **Defaults** to view or change many of the default parameters used to create a flight. These include routing method (default: *Victors*), whether or not to add fuel stops (default: *Yes*), how long to allow for layover time at fuel stops (default: *1 hr*), and many more.

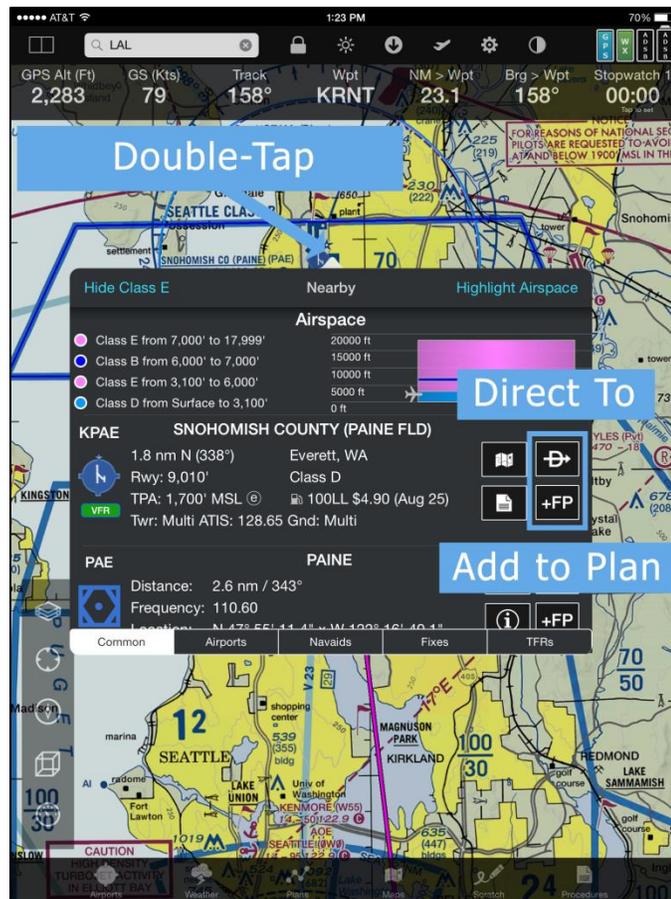
## Create Using the Map

### Rubber-band the Plan

Press and hold to move an existing point or insert one between two existing points ("rubber-banding"). When you release, FlyQ+ EFB finds the nearby airports, navaids, and fixes. Select one of those or tap the exact latitude/longitude where you released the line.



### Direct To and +FP



You can create or modify flight plans directly from the map by double-tapping the map. If the desired point is not already on your flight plan, or you have no flight plan, the **Direct To**  button creates a new flight plan from your current location to the selected point. If the selected point is already on the current plan, FlyQ+ EFB will delete the points before the selected point and fly directly to the point.

Unlike **Direct To**, **Add to Plan +FP** does not clear the current plan. Rather, it asks where within the current plan you'd like to insert the new point. Tap the **Add to end** button to append the new point to the plan rather than insert it between existing points. If **+FP** is tapped when no flight plan is loaded, the new point becomes the first point in the plan, so a new additional pop-up appears.

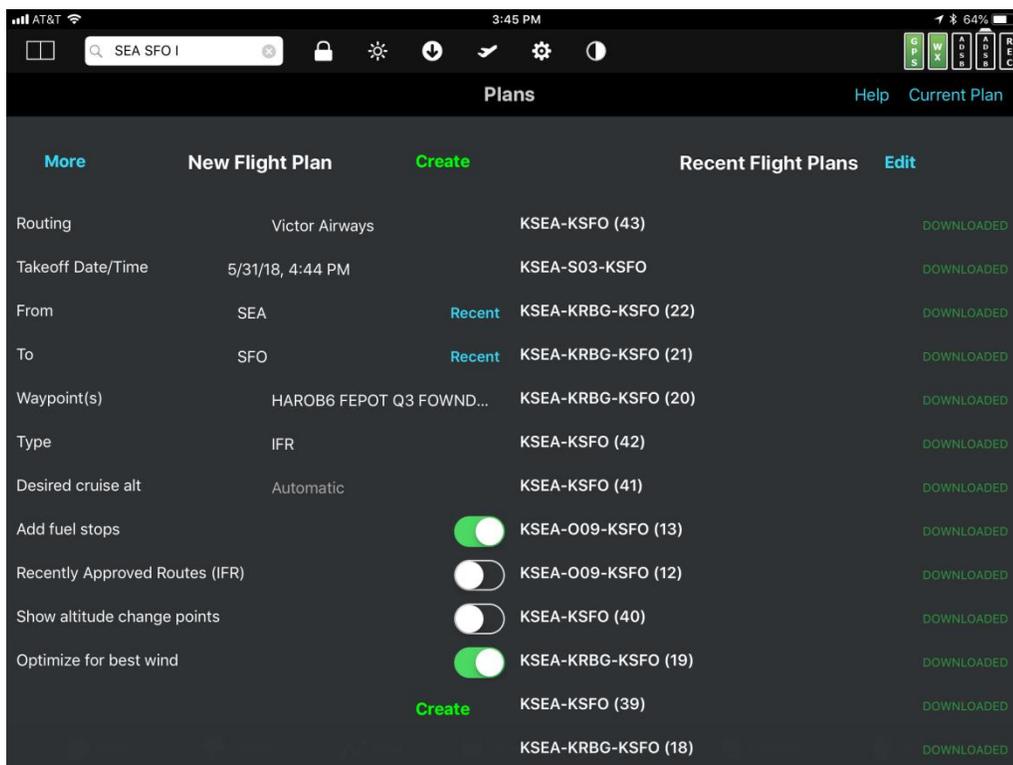
**Tip:** You can create an entirely new plan using **+FP** even if a flight plan is already loaded by using the **Clear** button on the **Plans > NavLog** tab.

## Create Using the New Plan Window

Select the **Plans** tab then use the **New Flight Plan** area to enter as much or as little information as you like and have FlyQ+ EFB plan the flight for you. This method has the most options including selecting the routing method, VFR or IFR, whether or not to optimize for best winds, etc.

By default, FlyQ+ EFB shows you the most common routing parameters (below) and hides less commonly-used ones.

There is no Save button because flight plans are automatically saved. They can be renamed or deleted later. To rename a plan, open it first then tap the name in blue.



Tap **More** to display further options such as selecting which aircraft to fly, min and max altitude ranges, takeoff fuel, and more.

---

## Basic Flight Planning

FlyQ+ EFB just needs a few inputs to plan your flight.

**Routing:** FlyQ+ EFB's autorouter can plan wind-optimized flights on airways or using *Terrain Avoidance*. For airways, you can choose between *Victor Airways* (lower than 18,000 ft MSL) or *Jet Airways* (FL180 or above). Be sure not to plan for *Jet Airways* if the selected aircraft cannot fly above FL180.

Planning via *Terrain Avoidance* tells FlyQ+ EFB to create as direct as possible flight between the **From** and **To** airports but apply rules for terrain avoidance and wind-optimization. You can also use the *Wind/Fuel Only* method to simply plot a direct line between **From** and **To**, and wind-optimize it. This differs from *Terrain Avoidance* in that the *Terrain Avoidance* method may also add some intermediate waypoints for long flights.

Finally, if you simply want to calculate the time/distance between two points without any wind-optimization, select *None* as the routing method.

Select *Search and Rescue* to use one of the nine built-in Search and Rescue patterns. See the [Search and Rescue \(CAP\)](#) section on page 185 for details.

**Takeoff:** Tell the system when you want to takeoff, in the current local time.

**From:** Enter the takeoff airport ident, either with or without the 'K'. Use the **Recent** button to select from a list of airports you've recently used. Generally, FlyQ+ EFB defaults to taking off from the home airport you've specified. Change your home airport by tapping the **Settings**  button then tapping the **Defaults** button in the **Flight Planning** section.

**To:** Same as above but applies to your landing airport.

**Waypoint(s):** Normally FlyQ+ EFB calculates a flight plan based entirely on your takeoff and landing airports. Use the Waypoints section to specify any intermediate waypoints, navaids, or airports by their idents. Add multiple route entries by separating them with a space (e.g., *LOFAL SEA PDX*). Enter Victor or Jet airway idents (such as *V495*) and FlyQ+ EFB will plan along the specified airway. You can even add SIDs and STARs.

**Note:** If you enter an airway, the router will ignore your **Routing** setting and just plan along the specified airway(s).

Refer to [Entering Waypoints to Create a Flight Plan](#) on page 107 for further details.

**Type:** FlyQ+ EFB applies different rules for planning VFR and IFR flights so select the type of flight you expect. This is also used when filing the flight plan via Leidos ([www.1800WxBrief.com](http://www.1800WxBrief.com)).

---

**Desired cruise alt:** You can specify the flight altitude if **Optimize for best wind** is *Off*. If it's *On*, FlyQ+ EFB selects the best altitude so you'll see *Automatic* here.

**Add fuel stops:** If the flight requires it, based on distance and winds expected during flight, FlyQ+ EFB will use its fuel price database to find the fuel stop(s) that minimize your total flight cost. It takes both the price per gallon (or pound for Jet A) and the diversion distance into account when planning stops. That is, it won't plan a stop 50 miles out of your way just because the price per gallon is slightly lower than elsewhere.

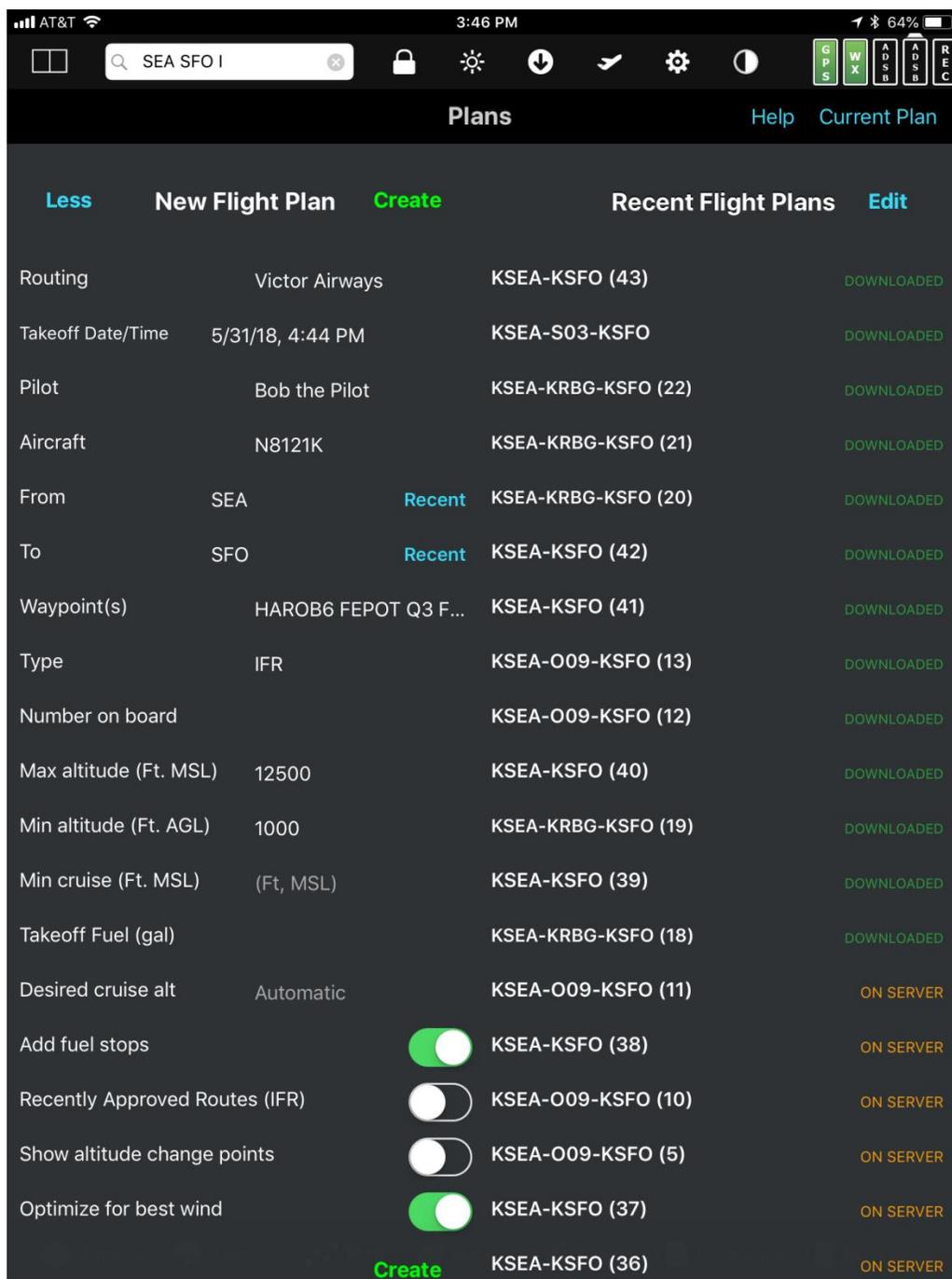
**Recently Approved Routes (IFR):** VFR flights will never show the list of recently approved IFR ATC routes, but you can choose whether to use them or not for IFR flights. **Note:** You can also disable searching for ATC routes in **Settings > Defaults**.

**Show altitude change points:** FlyQ+ EFB can show you a flight plan that includes points for when you reach the beginning of your cruise altitude (also known as *TOC* or *Top Of Climb*) and when you should begin your descent (*TOD* or *Top of Descent*). Normally this is disabled but you can turn this feature on here.

**Optimize for best winds:** Normally FlyQ+ EFB will use the winds-aloft forecast for your flight time to plan the best cruise altitude for the flight. Select *Off* to disable this feature so that you can enter your own preferred altitude.

## Advanced Flight Planning

Tap **More** at the top of the screen to set up additional routing parameters.



**Pilot:** FlyQ+ EFB allows you to create as many different pilots associated with your account as you like. When FlyQ+ EFB requests a weather briefing or files a flight plan, it uses the credentials associated with the selected pilot.

**Aircraft:** Many pilots fly more than one plane so FlyQ+ EFB lets you create as many aircraft profiles as you like. In the **Settings** page, tap the **Aircraft** button to add or edit aircraft profiles.

**Number on Board:** Unless otherwise stated, FlyQ+ EFB will plan flights with just one person, the pilot, onboard. If required, enter a different value in this field.

---

**Max Altitude (MSL):** Normally FlyQ+ EFB uses wind-optimization to plan the fastest flight possible by allowing the aircraft to reach the service ceiling of your aircraft. Use this setting to enter a different maximum altitude (MSL), either higher or lower than the service ceiling.

**Min Altitude (AGL):** When using the *Terrain Avoidance* routing method, FlyQ+ EFB will plan to keep about 1,000 ft above ground level (AGL) at all times except during takeoff and landing. Use this setting to enter a different minimum AGL setting (either higher or lower) or use the **Defaults** button within [Settings](#) (page 164) to change your default AGL clearance.

**Min Cruise (MSL):** For some aircraft, typically jets or very high-performance pistons, it's economically impractical to fly below a certain altitude regardless of the effects of winds. If you fly such a plane, enter an appropriate value here or use the **Defaults** button in **Settings** to specify your preference.

**Takeoff fuel:** Unless otherwise stated here, FlyQ+ EFB will assume your plane takes off with a full tank of fuel. If this is not the case, enter a higher or lower value here as desired. Note that the units used here depend on whether your plane uses AvGas (100LL) or JetA. When using JetA, the fuel value should be entered as pounds (lbs.), otherwise the system uses gallons.

## Routing Problems

When FlyQ+ EFB says that it cannot compute the flight plan, it generally means that some of your input parameters conflict. For example, you can't plan a flight on *Victor Airways* through the Rocky Mountains with a **Max Altitude** of 7,000 ft. When you see this error message, please click **More** to review and adjust the flight planning inputs.

---

## Entering Waypoints to Create a Flight Plan

You can create a flight plan using the **Search** box at the top of the screen by entering waypoints in any of these formats. For example:

*PAE SEA/87/35 SFO*  
*PAE W121.25N47xN47.5 SFO*  
*PAE SEA104/TCN74 SFO*

**Note:** If you want to use a waypoint in this format multiple times, it might be easier to create a **Personal Waypoint** and use the ident of the Personal Waypoint in the plan instead (see page 108).

### Waypoint Entry

In addition to standard named aviation points (airports, nav aids, fixes, etc.), FlyQ+ EFB accepts a wide variety of different ways to express a point in space. Virtually everywhere in the app that accepts standard named points also accepts these points.

### Latitude/Longitude

There is no standard way to enter latitude/longitude points so FlyQ+ EFB recognizes all the common formats such as:

*W121.25N47.5* or *N47.5W121.25* or *121.25W47.5N*  
*W121.25xN47.5* or *N47.5xW121.25*  
*W121'15'N47'30'* or *N47'30'W121'15'*  
*4730/12115*  
*4730N/12115W*

**Note:** You cannot use spaces to separate latitude and longitude because FlyQ+ EFB interprets spaces as multiple idents.

### Relative Bearings

You can express a point as relative to a nav aid, airport, or fix by using the airport, nav aid, or fix ident, a slash, a radial (or bearing for a fix or airport), and a distance in NM.

For example: *SEA/87/35*

This is the point 35 NM along the 87 radial from the SEA VOR. If a fix or airport is used instead of a nav aid, the first number is a magnetic bearing rather than a radial.

In cases, such as above, where the ident is both a nav aid and an airport, the nav aid is used. To specify an airport in such an ambiguous case, use the ICAO rather than FAA ident for the airport (e.g. *KSEA* in this case).

### Intersection of Two Radials

Sometimes ATC tells you to fly to the intersection of radials from two different nav aids.

---

This can be expressed by entering the first ident and the desired radial then a slash with the second ident and the desired radial. For example:

*SEA104/TCM74*

This is where the 104 radial from SEA meets the 74 radial from TCM. It also happens to be the RADDY fix.

### CAP Grid References

FlyQ+ EFB accepts grid references in Gridded Sectional, Cell, or GARS format regardless of which grid system is displayed. Unless a corner suffix is added (*NW*, *NE*, *SE*, or *SW*), the lat/lon of the center of the grid cell will be used.

Examples:

*SEA140*. The center of the SEA 140 grid cell.

*SEA140A*. The center of the SEA 140A grid cell (which is the upper left quadrant of the SEA 140 cell).

*SEA140ANE*. The top-right corner of the SEA 140A grid cell.

*47122DAB*. The center of the *47122DAB* grid cell -- roughly the center of the SeaTac (SEA) airport in the Cell grid system.

*47122DABSW*. The southwest corner of the grid cell above. This is identical to the position specified as *47122DA* as *47122DA* means the center of the *47122DA* grid.

*115KO13*. The center of the 115KO13 grid cell – roughly the center of the SeaTac (SEA) airport in the GARS grid system.

*115KO1NE*. The northeast corner of the 115KO1 grid cell – near the RNT airport.

### Personal Waypoints

A Personal Waypoint is a specific latitude/longitude that you can name for later reuse. It can be displayed on the map and used in flight plans. Personal Waypoints are automatically synchronized between all your iPads and iPhones running FlyQ+ EFB.

You can create and name Personal Waypoints in several different ways:

- On the map, double-tap anywhere and tap the **+WPT** button next to the latitude/longitude entry.
- In the **Search Box**, type a latitude/longitude, navaid or fix with a radial and distance, or intersection of two navaids then tap the **+WPT** button.
- In [Settings](#) (page 164), select **Personal Waypoints** to create, edit or delete Personal Waypoints.
- Tap the **Position** gauge on the **Gauge Bar** at the top of the map to add a new Personal Waypoint at the current location.

---

A Personal Waypoint has a short **Ident** with no spaces and an optional **Name** that may include spaces. The **Ident**, like a navaid ident, can be used when entering a flight plan in the **Search Box** that includes a Personal Waypoint. The **Name** may *not* be used for planning a flight and is generally only used for clarification when the waypoint is displayed on a map.

Personal Waypoints may be displayed with their **Ident**s (and **Names**, if they have them) or simply as flag markers. The flag markers are ideal when there are many Personal Waypoints in very close proximity to each other. Control the display format by changing **Show Personal Waypoint idents** in [Settings](#) (page 164).

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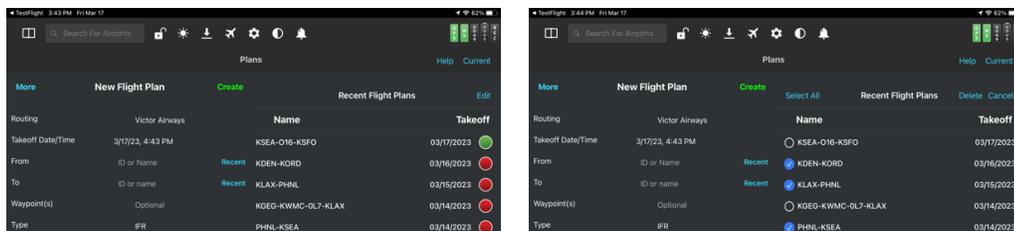
**Tip:** To see a new Personal Waypoint on the map, be sure to turn the **Personal Wpts** map layer on. The **Personal Wpts** layer is not automatically turned on when a Personal Waypoint is created.

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## Using a Previous Plan

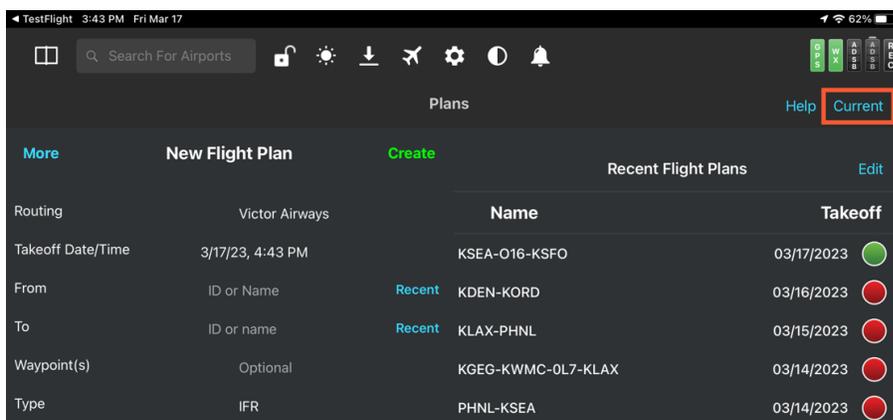
The **Recent Flight Plans** section lists the flight plans you've recently used. Some may be green (Downloaded) and some may be red (On Server). Green plans have been downloaded to your device and may be used during flight when no Internet connection is available. Red plans were created on some other device and have not been downloaded to your device; this must be done before they can be used during a flight.

Tap **Edit** to selectively delete flight plans. Tap all the flight plans you want to delete or tap **Select All** to remove all the visible plans (not *all* flight plans). Tap **Delete** to remove the selected plans or tap **Cancel** to keep all the plans.



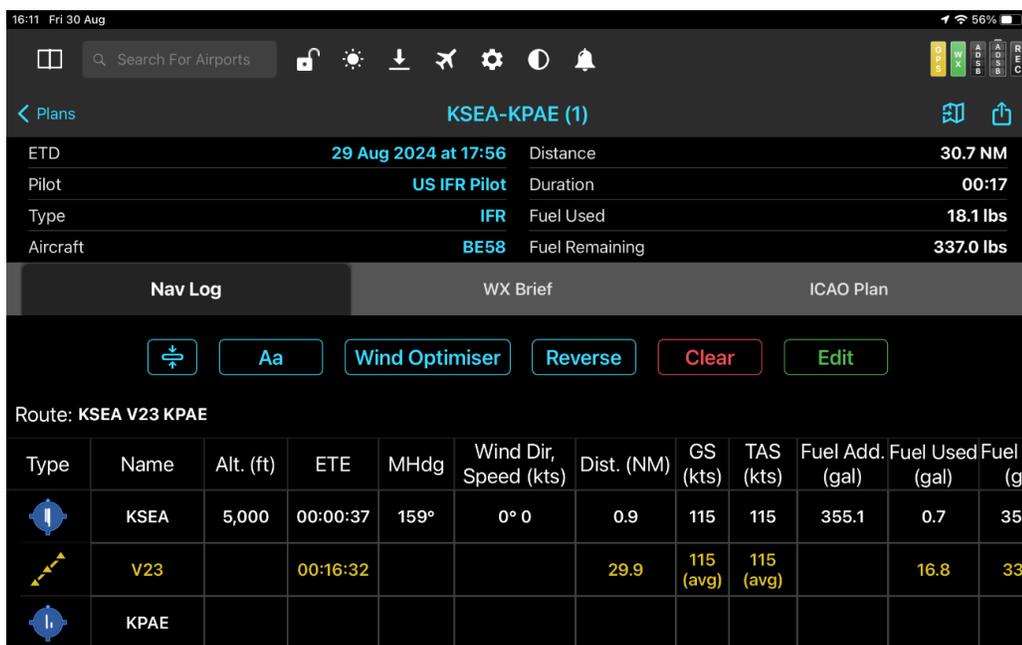
Tap a plan to load it, using its original takeoff date/time, into the **NavLog**. Once in the **NavLog**, you can edit the flight plan's points, its takeoff date/time and more.

If a flight plan is already loaded, the **Current Plan** option will be available in the top right of the screen. Tap this to open the NavLog for the plan.



**Note:** You can send flight plans to the Dynon SkyView, AFS, or Aspen systems via a Wi-Fi connection. Flight plans can also be sent from SkyView or AFS to FlyQ+ EFB. See the [External Devices and Applications](#) section on page 131 for details.

## The NavLog



The top section of the NavLog shows a summary of the basic flight information – flight plan name, takeoff date/time, pilot, distance, duration, fuel, etc. Values in light blue can be changed by tapping on them, similar to a web page. For example, you can rename the flight plan by tapping its name (e.g. KSEA-KPAE (1) above).

The NavLog shows the data required for flying between each point in the plan. The **Alt** column shows the final cruise altitude from this point on the current line to the next. In the example above, it means ascending from ground level (not shown) to 11,500 ft MSL between takeoff at *KPAE* and flying over the *SEA* VOR. **MHdg** is the magnetic heading you should take to properly adjust for the effect of winds aloft.

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Some rows in the Navlog (those for airways, SIDs, and STARs with more than two segments) are collapsed into a single line in the table for ease of viewing. These can be identified as they are shown in different colors, and usually display values as '(avg)' – weighted averages of the stages within the collapsed row. You can tap the **Expand** button  to show all the details of these stages, and then tap the **Collapse** button  to hide them again. Tapping the collapsed row for an airway also expands it in the same way, while tapping a SID or STAR displays the associated plate.

Tap any row in the NavLog to see more information about that point. For example, tapping anywhere in the *KPAE* row shows detailed information about the KPAE airport.

The NavLog contains more columns than can be shown on the page so swipe it left and right to see more. Swipe up/down to see more rows (if applicable).

The **Map**  button next to the plan name shows the entire flight plan on the map at an appropriate zoom level.

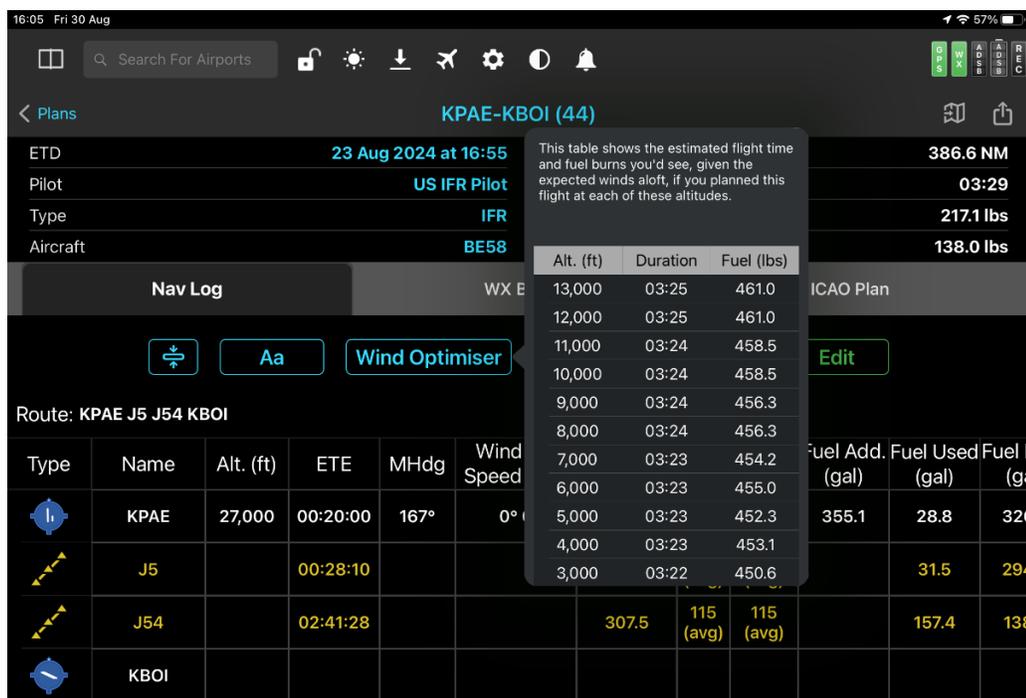
The **Action**  button allows you to print or email the flight plan. If you have a Dynon SkyView, AFS AF-5000, or Aspen Connected Panel, you can also send the flight plan to your in-panel system. See the [External Devices and Applications](#) section on page 131 for details.

Tap the **Back Arrow** (<) at the top to go back to the New Flight Plan / Recent Flight Plans page.

The options bar just above the NavLog itself controls the display and editing of the NavLog:

The font size option (**aA**) switches the font size of the NavLog between normal (as shown above) to a font that's about 50% larger.

**Wind Optimizer:** Often a flight plan is generated by FlyQ+ EFB taking winds aloft into account to get you to your destination as fast as possible. However, there may be other considerations beyond flight duration so the **Wind Optimizer** button shows you a table of the trade-offs (in terms of flying time and fuel consumption) of flying at different altitudes. Tapping on a row in the table changes all altitudes in the flight plan to the selected altitude, as adjusted for cardinal altitude rules.



**Reverse:** Tap to reverse the flight plan. Altitudes will be adjusted for cardinal direction rules but the plan will *not* be wind optimized for the reverse direction. Tap **Wind Optimizer** to re-optimize the plan.

**Clear:** This unloads the current plan from the system (removes the **Flight Plan** layer from the map, clears the Gauges, etc.) but does not delete it from the iPad/iPhone so it may be loaded again.

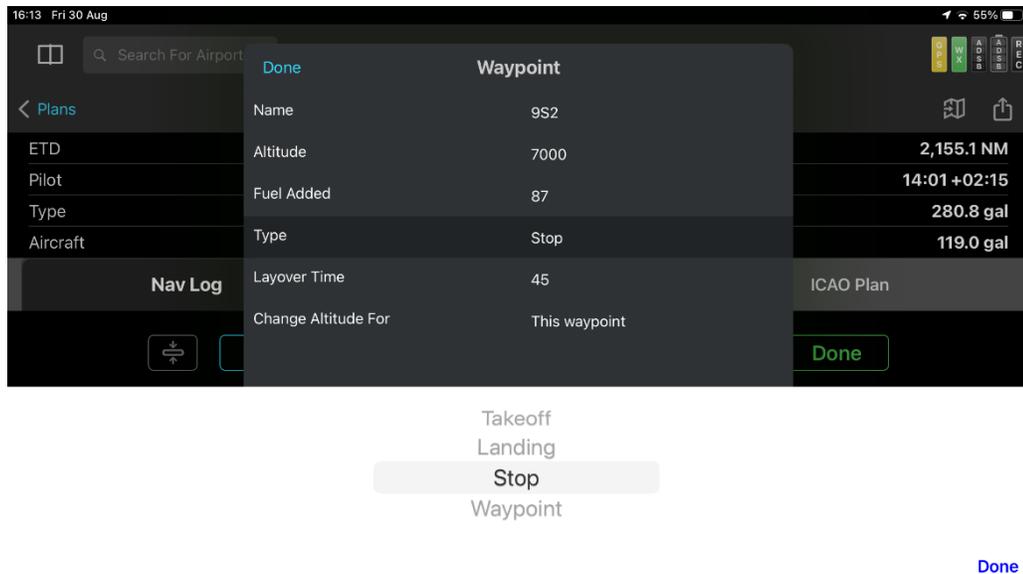
**Edit:** A flight plan may be edited in several ways including rubber-banding the flight plan line on the map, using the **Direct To** and **+FP** buttons available in several places or by simply entering a new flight plan in the top **Search** box. *Tapping **Edit** is not necessary for any of those edits.* Instead, **Edit** puts the NavLog into a mode where tapping a row opens a pop-up that lets you modify the altitude, fuel, or type of waypoint for that entry rather than show detailed information about it. **Edit** turns into **Done** when it's tapped.

In the example below, the *9S2* entry was tapped to turn it into a fuel stop by changing the **Type** to *Stop* (that is, a fuel stop as opposed to a final landing) and adding a quantity in the Fuel Added setting. **Note: Fuel Added** can be edited for any *Airport* but not for *Nav aids* or *Fixes*. If the **Type** is not already set as *Stop*, FlyQ+ EFB automatically changes it. For a *Stop*, you can also specify a **Layover Time**.

The altitude of each waypoint (that is, the altitude you will be at just before the **next waypoint**) can also be edited.

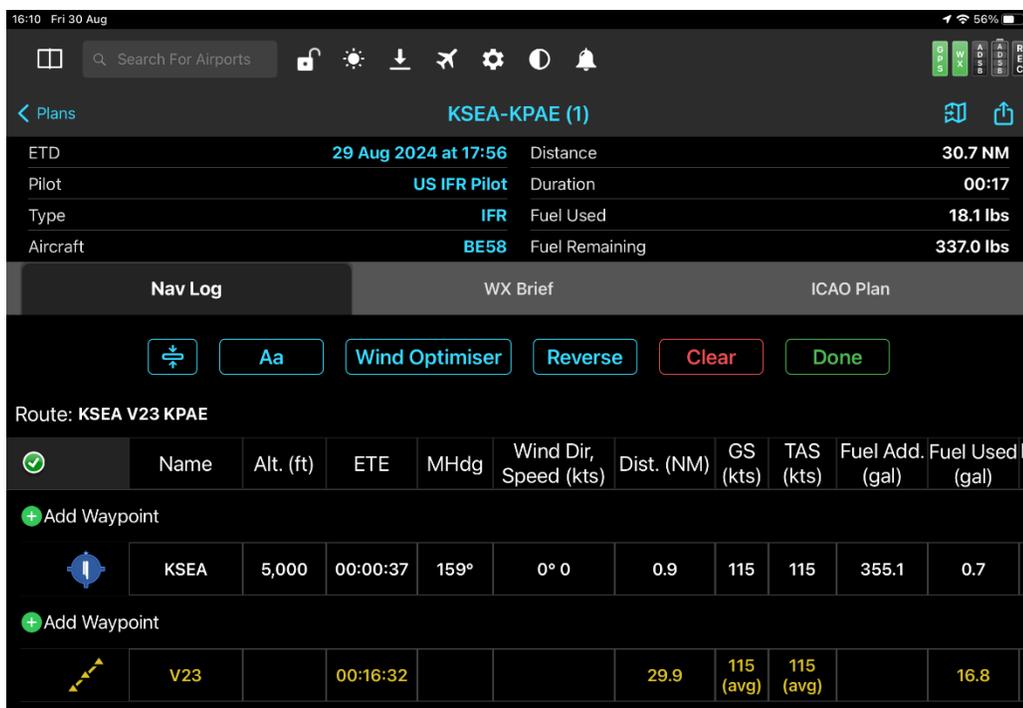
**Tip:** You can quickly change the altitude of multiple waypoints with the **Change Altitude For** setting. Use this to select if the altitude edit applies just to this

waypoint, to all waypoints in the plan, or for this waypoint and all subsequent ones. FlyQ+ EFB will adjust the given altitude slightly as required for IFR or VFR altitudes and for correct cardinal altitudes based on magnetic direction of flight.



**Edit** also adds a green + (New) button to the NavLog. Tapping + puts a “placeholder” row between each of the rows of the NavLog. Tap the green + above any row to add a point between the two adjacent points.

**Tip:** You can generally do this more easily by rubber-banding the flight plan line or using the **+FP** button after double-tapping the map over the desired new point.



When you've completed your edits, tap **Done** to automatically save your changes.

## Weather Briefing

A Leidos weather briefing is automatically generated when a flight plan is created or edited. Switch from the **NavLog** tab to the **WX Brief** tab to view the briefing. By default, FlyQ+ shows a detailed, graphical briefing as shown below. Alternately, you can switch to displaying an older format text-only briefing by going to **Settings** and turning **Use enhanced briefing** off.

**Station ID**

Station ID	340	390	450	530
171300Z				
1400Z 2300Z				
PDX	300089-53, 200072-55, 200055-53, 200038-55			
KVR	320063-51, 310049-50, 310043-51, 310032-55			
SEA	310011-50, 300057-51, 300050-51, 290030-54			
KRM	300078-49, 200061-50			
AST	300085-53, 300070-55			
KOH	290084-52, 290080-57			

**Area Forecast**  
None

**Convective Outlooks**

**Day 1 CONVECTIVE**  
Valid: Apr 17, 1200Z to Apr 18, 0000Z

**Severe Thunderstorm Risk**

- GENERAL (NONE)
- SLIGHT (SLGT)
- ENHANCED (ENH)
- MODERATE (MOD)
- HIGH (HIGH)

ACUS01 KWNS 171253  
SWD011  
SPC AC 171252  
DAY 1 CONVECTIVE OUTLOOK  
NWS STORM PREDICTION CENTER NORMAN OK  
0752 AM CDT WED APR 17 2024  
VALID 171300Z - 181200Z  
...THERE IS A SLIGHT RISK OF SEVERE THUNDERSTORMS.

**leidos** Flight Service  
Certified Flight Service Briefing, ID: BE1BLUE  
Briefing Time: Apr 17, 09:01 PDT / 16:01 UTC

**Overview**

**Flight Plan Summary**

Flight Rules: IFR  
Aircraft ID / Type: N905Q / C172  
Cruising Speed / Level: 102 knots / 7000 feet  
Departure Date & Time: 04/17/2024 1058 PDT  
Departure: KPAE  
Route: DCT  
Destination: PDX

**Briefing Customization**

Briefing Type: Standard / Route  
Time Estimates Based On: Forecast Winds and User-Defined Aircraft Performance  
Route / Winds Aloft Corridor: 50 nm / 200 nm  
Include Graphics: Yes Include NextGen Content: Yes Include  
Plain Text Translations: Yes  
Briefing Content Filters:  
Only include most recent METARs

**Weather Stations**

Departure: None within 10 NM  
Destination: KVVU 135.125

**TAFs**

along the route of flight

Unsafe Airport/Runway

IET (None along the route of flight)

None along the route of flight

RMET SIERRA

I (None along the route of flight)

IO (None along the route of flight)

Visibilities (None along the route of flight)

(None along the route of flight)

● IFR ● LIFR ● UNKNOWN  
Active Within 60 Minutes Active Outside 60 Minutes

pr 17, 20:00 PDT), Wind from 020° at 10 knots, greater than 6 sky Clear.

Lewis, Tacoma, WA (KTCM), Issued Apr 17, 1300Z (06:00 PDT), (06:00 PDT) until Apr 18, 1900Z (12:00 PDT), Wind is variable at 0 meters visibility, Sky Clear, altimeter 30.43 inches

17, 1800Z (11:00 PDT) and Apr 17, 1900Z (12:00 PDT), Wind water than 9,000 meters visibility, Sky Clear, altimeter 30.46

17, 2300Z (16:00 PDT) and Apr 18, 0000Z (Apr 17, 17:00 PDT), not with gusts to 15 knots, greater than 9,000 meters visibility, 40 inches

18, 0500Z (Apr 17, 22:00 PDT) and Apr 18, 0600Z (Apr 17, 23:00Z (16:00 PDT) until Apr 18, 1900Z (12:00 PDT), Wind ter than 9,000 meters visibility, Sky Clear, altimeter 30.39 inches

17, 1800Z (11:00 PDT) and Apr 17, 2100Z (14:00 PDT), Wind with gusts to 18 knots

17, 2200Z (15:00 PDT) and Apr 17, 2300Z (16:00 PDT), Wind is ater than 9,000 meters visibility, Sky Clear, altimeter 30.35 inches, erature 16°C on Apr 17, 2300Z (16:00 PDT), forecast minimum

Page 1 (TOC)

**WX Brief** has a **Refresh** button to generate a new weather briefing in case the plan was last loaded or edited some time ago.

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## File a Flight Plan

Select the **ICAO Plan** tab to view, edit, and file the flight plan.

The screenshot shows a mobile application interface for filing a flight plan. At the top, there's a search bar for airports and a title bar with the flight ID 'KPAE-7S5-KRBG-KWLW-KSFO'. Below this, a summary section displays flight details: Time (Feb 14, 2017, 3:30 PM), Distance (643.7 nm), Duration (10:04), Fuel Used (93.8 gal), Fuel Rem (-1.0 gal), Pilot (Steve Podradchik), Type (VFR), and Plane (N8121K). Three tabs are visible: 'Nav Log', 'WX Brief', and 'ICAO Plan', with 'ICAO Plan' being the active tab. Under the 'ICAO Plan' tab, there is a 'File' button and a list of data entry fields. Fields 7 through 16d are visible, with some fields highlighted in white to indicate they are editable.

Field	Value
7. Aircraft Tail #	N8121K
8a. Flight Rules	VFR
8b. Type of Flight	General Aviation
9a. Number of Aircraft	1
9b. Type of Aircraft	P28A
9c. Wake Turbulence	Light
10. Equipment	ODGY/CU2
13a. Departure Aerodrome	KPAE
13b. Proposed Departure (PST)	3:30 PM
15a. Cruising Speed	95
15b. Cruising Level. (ft / 100)	115
15c. Route of Flight	SEA V23 BTG 7S5 EUG V23 CURTI KRBG MOU...
16a. Destination Aerodrome	KSFO, San Francisco Intl
16b. ETE Hours	09
16c. ETE Minutes	33
16d. Alternate Airports	

The **ICAO Plan** shows the same data entry fields, in the same order, as the standard ICAO flight plan form so the first block is number 7. The fields in white (such as **Type of Flight**, **Proposed Departure**, **Cruising Speed**, **Route of Flight**, etc.) may be edited before submission to the FAA. The other fields may only be edited indirectly by changing the **Plane** or **Type** in the Summary section above or creating a new plan.

Tap **File** to submit the plan to Leidos Flight Services ([www.1800WxBrief.com](http://www.1800WxBrief.com)) when all the information is correct. Leidos will reply with a confirmation if the plan was accepted or an error message if it cannot be filed. The most common reason for failure is that the proposed takeoff is either in the past or less than 30 minutes from the current time. Use the **Time** field in the **Summary** section to alter the takeoff time if required. Accepted plans may be printed or emailed.

You can add your Leidos Username to your pilot profile so your flight plans are available from [www.1800WxBrief.com](http://www.1800WxBrief.com). Pilot profiles are accessed from the **Settings** page by tapping .

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# Weather

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## Introduction

Weather is crucial to flying and FlyQ+ EFB contains all the weather information you need to make flying easier and safer. On the map, FlyQ+ EFB lets you select as many weather layers as you like, and you can even use a Timeline and Altitude Slider to see how weather has changed or is expected to change in the future or at different altitudes.

## ADS-B or Internet

While on the ground, FlyQ+ EFB uses weather downloaded from the Internet and stores this on the iPad/iPhone for use while flying. You can add one of several supported ADS-B receivers to obtain weather updates while flying.

**Note:** Remember that most ADS-B receivers used in the US are dual-channel. The 1090 MHz band receives traffic only, no weather. Weather and traffic are both broadcast on the 978 MHz band (US only) sent from ground stations. Therefore, if you're at your desk at home or flying too far from a ground station (or below 3,000 ft AGL), you may see traffic from 1090 but no weather as you're not receiving any 978 transmissions.

Weather information can be accessed in a number of ways, as described in the following sections.

## Weather on the Map



### Weather Layers

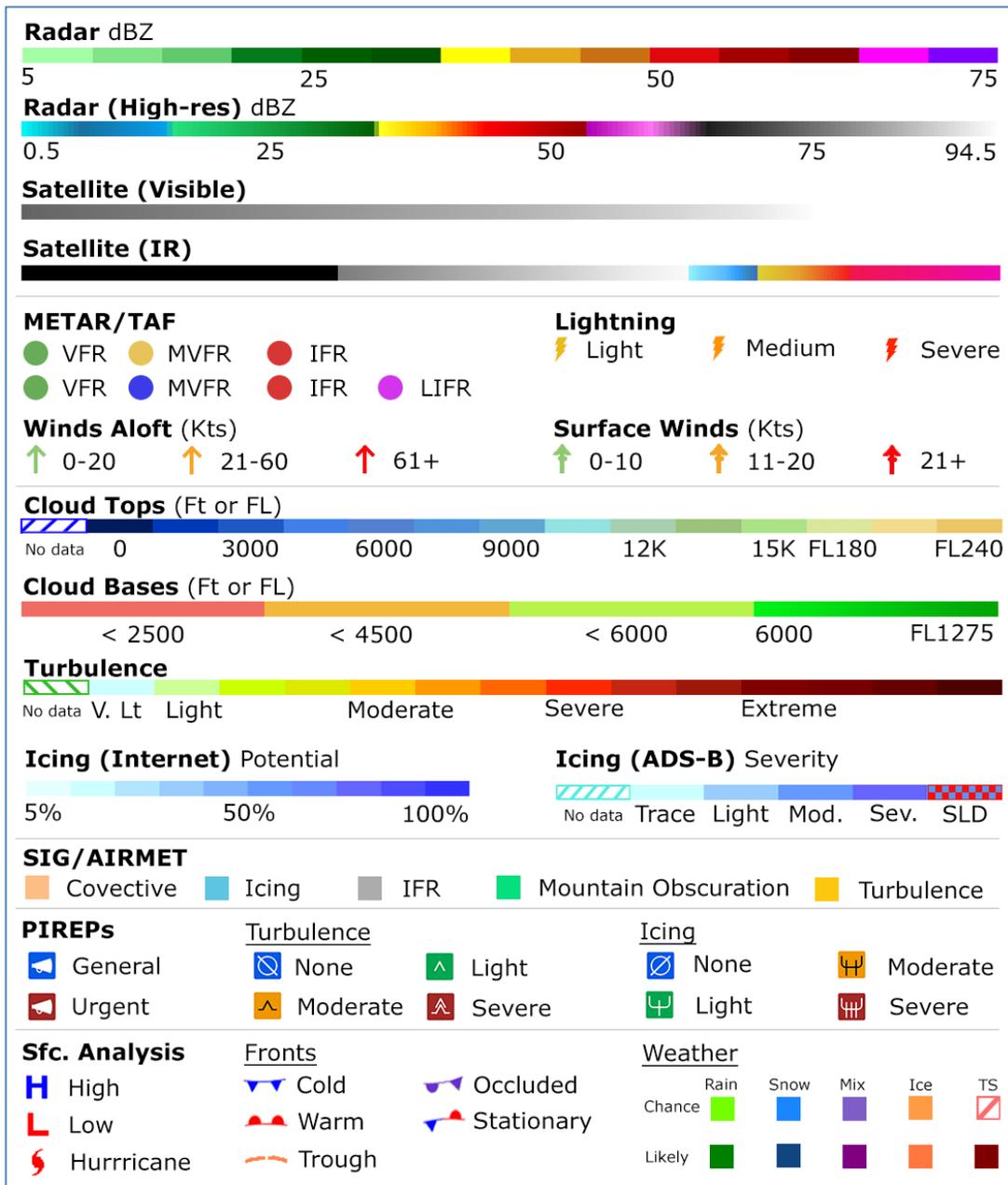
FlyQ+ EFB has 16 weather layers and can display any combination of them over any 2D map. Tap the **Layers**  button on the map bar on the left side of the screen, then select as many or as few weather layers as you like (except that only one radar layer may be selected at a time). Most layers work when connected to the Internet or an ADS-B receiver. Some layers are affected by the Timeline and/or Altitude Slider.

Layer	Internet	ADS-B	Timeline	Altitude Slider	Notes
Radar	Yes	Yes	-2 » +1 hours (Internet only)	No	Historical + 1 hour predictive. CONUS only.
Radar (Anim)	Yes	No	No	No	Loops from 4.5 hours ago to current in 15-minute increments. North America.
Radar (Hi-Res)	Yes	No	-2 hours » current	No	No predictive. North America.

Layer	Internet	ADS-B	Timeline	Altitude Slider	Notes
Satellite (Vis)	Yes	No	-2 hours » current	No	Daylight hours only
Satellite (IR)			-2 hours » current	No	Day and Night
METAR/TAF	Yes	Yes	-2 » +22 hours	No	METAR when current, TAF when future
Winds Aloft	Yes	Yes	-2 » +22 hours	Yes	1000 ft increments (interpolated)
Sfc. Winds Cloud Tops	Yes	Yes	-2 » +22 hours	No	MSL. Cloud tops are based on cumulus layers when from the Internet
	Yes	Yes	-2 » +22 hours for Internet, Current for ADS-B	Yes	
Cloud Bases	Yes	No	-2 » +22 hours	No	AGL. Based on cumulus layers.
SIG/AIRMET Turbulence	Yes	No	No	No	
	Yes	Yes	-2 » +15 hours for Internet, Current for ADS-B	Yes	
Icing	Yes	Yes	-2 » current for Internet, Current for ADS-B	Yes	
Lightning	Yes	Yes	No	No	
PIREPs	Yes	Yes	No	No	
Sfc. Analysis	Yes	No	-2 » +22 hours	No	

## Legend

View this weather legend by tapping the **Layers**  button and selecting **Legend** in the **Tools** category.



**Notes:**

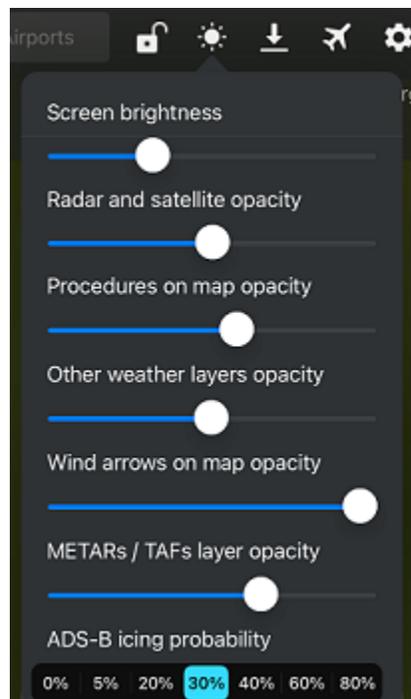
- “No data” is only relevant to ADS-B weather, not weather from the Internet. It means that the system is receiving data about that area from the ADS-B receiver but the data has been explicitly marked at the source as *No Data*. This often happens over oceans or mountain passes with insufficient weather coverage. It is entirely different than the case of the ADS-B receiver not seeing any data at all from a given area (i.e., what looks like a hole in the data).
- If an ADS-B receiver is not used, FlyQ+ EFB uses the last-downloaded weather from the Internet.
- FlyQ+ EFB uses multiple sources of Internet weather to provide global coverage. In some cases, the US source is updated more frequently or provided in higher resolution than the global source. These different sources sometimes produce

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visible seamlines and slight inconsistencies where they overlap. In **Settings**, you can choose to use the global versions everywhere for more consistency.

- True radar is available only within North America. Radar images outside this area are derived from other sources.
- “SLD” is Super Large Droplets of icing. These are extremely dangerous and should always be avoided. This data is only available from an ADS-B feed, not from the Internet.
- PIREPS are colored red when marked as Urgent even if they are not Severe. PIREPS are only available with the US.
- A General (or Urgent General) PIREP icon is displayed when the PIREP is neither Turbulence nor Icing or it contains more than one report (i.e., both Icing and Turbulence, CAVU, etc.).
- The Icing display is very different for Internet icing than for ADS-B icing. Internet icing is based on the *probability* of any type of icing while ADS-B icing is based on *severity*. You can adjust the ADS-B icing display to hide icing below a selected probability using the **Brightness and Opacity** control described below.

## Brightness and Opacity



You can control the opacity of the radar layer with a slider. If the slider is set all the way to the right (line solid blue), the radar layer completely obscures the underlying map. If set all the way to the left (no blue line), it's almost completely transparent.

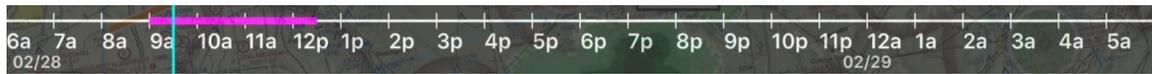
Some of the other weather layers (*Icing*, *Turbulence*, *Cloud Tops*, and *Cloud Bases*) can also be controlled with the *Other weather layers opacity* slider. There are also sliders for controlling the opacity of the *METAR/TAF* layer and the arrows on the *Winds Aloft* layer.

---

ADS-B icing is controlled with the setting at the bottom of the dialog. Use this to hide icing that has a lower probability than the selected option. For example, if you want to hide icing that isn't at least 30% likely, set the switch to 30%. To see all icing, no matter how likely, set the switch to 0%. **Note: This setting only applies to ADS-B icing, not icing provided when connected to the Internet.**

**iPhone Note:** The **Brightness and Opacity** control is not accessible from an icon at the top of the screen due to more limited space. Instead, tap the **Settings**  button and choose the **Brightness and Opacity** option.

## Timeline

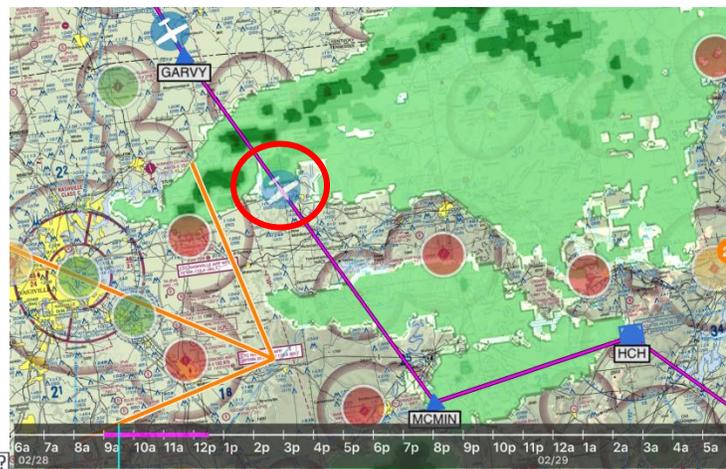


FlyQ+ EFB's Timeline lets you look at weather in the recent past and, in some cases, expected weather up to a day into the future. A thin blue line indicates the selected time (about 9.30 am in the example above).

If a flight plan is loaded, FlyQ+ EFB uses a magenta line to show the flight period. For pre-flight planning, this period is the time between expected takeoff and expected landing. When a flight is in progress, the period is from the current time until the expected landing based on your current ground speed.

Not all weather layers respond to changes in the Timeline. See the table on page 117 for details.

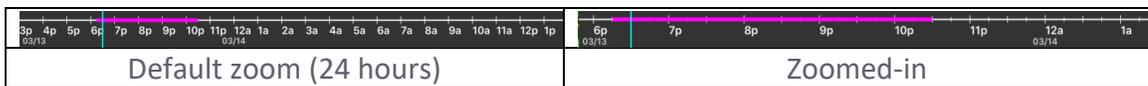
The Timeline automatically switches on if any of the selected weather layers make use of it and switches off when no selected layers use it. You can also manually switch it on or off with the **Timeline** option in the **Layers** screen.



---

Change the selected time by sliding the time selector (the blue line) or simply tapping on the desired time. If a flight plan is loaded, a “ghost” aircraft marker appears at your expected location at the selected time (if the selected time is during the planned flight period). In this way, it’s easy to see what weather is expected near your aircraft at any point during the flight. In the example above, the aircraft’s current position is near the GARVY intersection and the “ghost” image (circled in red) is further south because the time selector is set slightly into the future (about 9.30 am).

Use two fingers to zoom the Timeline in or out. For example, to see more detail between about 6 pm and 10 pm, place one finger around 6 pm and one finger around 10 pm then move your fingers apart. To show a wider time period, move your fingers closer together. When zoomed, slide (pan) the Timeline left or right by pressing two fingers on the Timeline at the same time and slide them right or left.



Set the selector to the current time by double-tapping anywhere on the timeline. If the Timeline is zoomed in, a double-tap also resets the scale to show the full 24-hour range.

During flight, the Timeline normally moves automatically to the current time, unless the **Automatically adjust timeline** setting is switched off in [Settings](#).

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## Altitude Slider



FlyQ+ EFB’s Altitude Slider lets you look at weather observed or expected at different altitudes (MSL). By default, the Altitude Slider shows a range from 0 ft to 24,000 MSL (0 – FL240). The upper point can be changed to 16,000 MSL or 48,000 MSL from the **Altitude slider ceiling** option in [Settings](#) (page 164).

Not all weather layers respond to changes in the Altitude Slider. See the table on page 117 for details.

The Altitude Slider automatically switches on if any of the selected weather layers make use of it and switches off when no selected layers use it. You can also manually switch it on or off with the **Altitude Slider** option in the **Layers** screen.

Above the altitude range selector is a small button that shows the currently selected altitude (*Wx Alt 7K* in the example shown here). This button is always visible, even when the range selector is hidden. Tap this button to show or hide the range selector.

Change the selected altitude by sliding the selector (the blue highlight) or simply tap the desired altitude.

During flight, the Altitude Slider normally moves automatically to your current altitude.

## Preflight and In-flight Weather Information

During a flight, FlyQ+ EFB is very careful to not overwhelm you with information or fill the screen with unnecessary controls. Therefore, the Timeline and Altitude Slider behave differently whether you’re doing pre-flight planning on the ground (that is, not moving) or during flight. Specifically:

**Preflight:** The Timeline and Altitude Slider are on when any layer that uses them is on and switch off when no selected layers use them. They can also be manually switched on and off with the **Timeline** and **Altitude Slider** options in the **Tools** area of the **Layers** pop-up. The Altitude Slider is also switched on and off by tapping the button above the range selector that begins with “Wx Alt.”

**In-flight:** As above except that the Timeline and Altitude Slider automatically hide if you don’t use them for 20 seconds. When the “hide” action is triggered, FlyQ+ EFB also sets the Timeline to the current time and the Altitude Slider to the current GPS altitude.

Once reset, FlyQ+ EFB dynamically updates the Timeline and Altitude Slider to the current time and altitude as you continue flying. In this way, it's easy to temporarily use the Timeline or Altitude Slider for a "what-if" analysis or to see how weather is expected to change later in the flight without accidentally forgetting to set them back to the actual time or altitude afterwards.

## METARs and TAFs

The METAR/TAF circles use your choice of either three or four colors to depict the actual or expected weather conditions. The default three color system is: green is VFR, yellow is MVFR, and red is IFR, LIFR, or VLIFR. The optional four color system is: green is VFR, blue is MVFR, red is IFR, and magenta is LIFR or VLIFR. The colors are determined by either METARs or TAFs, depending on the time. If the airport has a METAR report that is still valid (they last one hour), the color is based on a METAR. If you're outside the time range of METARs, FlyQ+ EFB automatically switches to using TAFs. Select three or four colors with the **METAR/TAF** switch in **Settings**.

When the **METAR/TAF** layer is on, tap a METAR/TAF circle and FlyQ+ EFB displays the nearest METAR and TAF information. Tap **More** for additional weather information including winds aloft for that airport.

**Note:** Both the METAR/TAF and TFRs layers use a single-tap to show more information. For safety reasons, when a TFR overlaps a METAR/TAF circle, FlyQ+ EFB shows TFR information. In that case, temporarily deselect the TFR layer to see the METAR/TAF information.



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## Winds Aloft

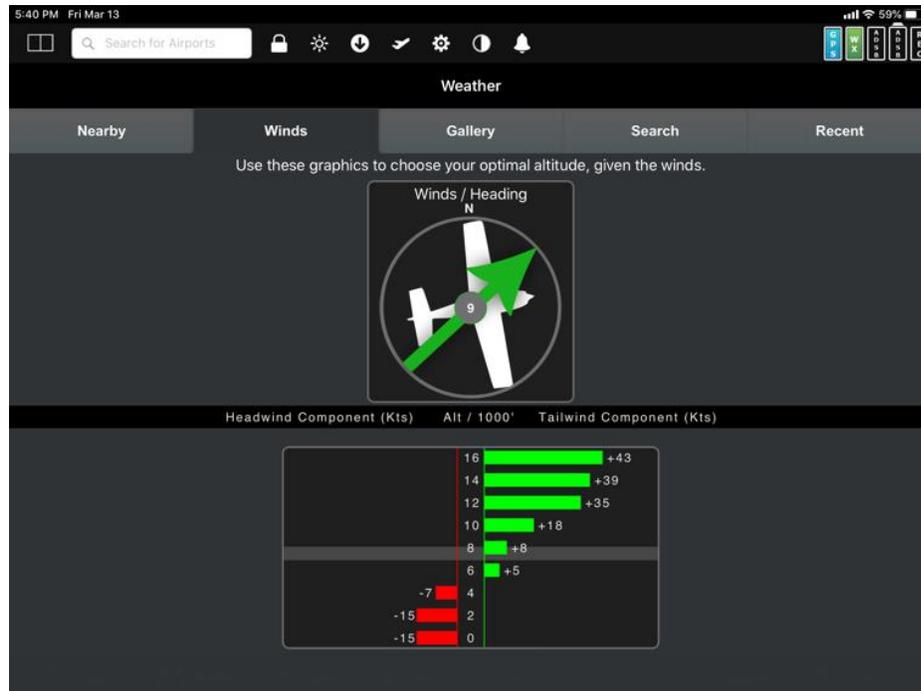
Winds Aloft are depicted using either arrows (default) or barbs. Use the **Wind representation** switch in **Settings** to choose.

The Winds Aloft arrows point in the direction that the wind is moving not in the direction from which it comes. The number at the end is the expected winds aloft speed, in kts, at the altitude selected on the Altitude Slider. If you're in-flight, that is generally your current GPS altitude. Winds aloft are reported in MSL.

Wind barbs use the standard symbology used by NOAA: circle = calm, small barb = add 5 kts, large barb = add 10 kts, and wedge-shaped barb = add 50 kts. In FlyQ+, they are also color-coded the same way as the wind arrows. The stick end of the barb is where the wind is going to; the barb end is the direction from which it comes.

**Note:** Selecting 0 on the Altitude Slider does not show surface winds (there is a separate weather layer for those). Instead, since Winds Aloft values are interpolated between the two closest FAA/Nav Canada reporting altitudes, selecting 0 shows the winds aloft from 3,000 ft, the first reporting altitude.

Tap the large **Weather** tab at the bottom of the screen then the **Winds** tab to see winds at other altitudes and their headwind or tailwind impact.



The image above has two sections. The top part shows the wind relative to the aircraft's direction. In this example, it's a 9 knot tailwind. The bottom section uses green (tailwind) and red (headwind) bars to show how much tailwind or headwind to expect if you were to fly at various altitudes. The current altitude is shown by the grey line

(about 7500 ft in the image above). In this example, you'd get an increasingly large tailwind if you fly above 6,000 ft but a headwind if you fly lower.

## AIRMETS and SIGMETs

When the **AIRMET/SIGMET** layer is on, make a single tap on an AIRMET or SIGMET to see detailed information about it. Notice that the airmet graph shows which AIRMETS and SIGMETs are relevant at your current altitude as depicted by the aircraft icon.

The Altitude Slider and Timeline do not affect the AIRMET/SIGMET display. FlyQ+ EFB shows all the current AIRMETS and SIGMETs from the NWS (Internet) or ADS-B data feed.

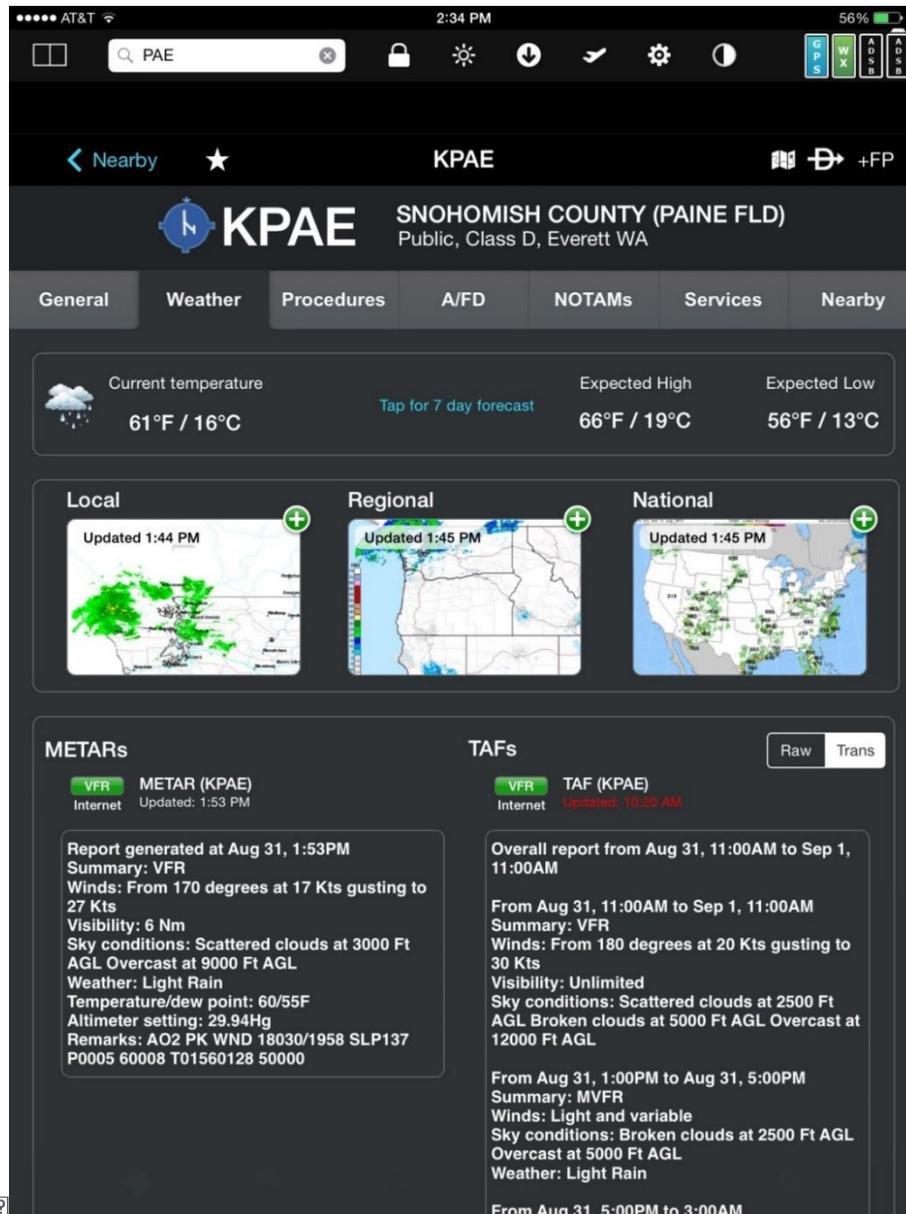
See detailed information about an AIRMET or SIGMET either by selecting it from the list or by tapping the graphical representation above the list. As you select a specific AIRMET or SIGMET, it's highlighted on the map and all other AIRMETS and SIGMETs are hidden. Tapping **Close** restores all AIRMETS and SIGMETs and tapping **Highlight** closes the pop-up but leaves the selected AIRMET or SIGMET on the map until the map is tapped, which returns the map to showing all AIRMETS and SIGMETs.



**Tip:** Tap the AIRMET or SIGMET text to see it much larger.

## Weather for an Airport

When viewing airport information, tap the **Weather** tab to see weather specific to an airport. You'll see animated local, regional, and national radar images around the airport if you're connected to the Internet. This is not available when offline or using ADS-B. You'll also see the METAR and TAF from the nearest location (not necessarily the airport you are viewing if that doesn't have these weather reports), a winds aloft table, and even a Leidos briefing. The top area shows the current temperature and, with a tap, an easy-to-read 7-day forecast.



**Tip:** Tap the METAR or TAF to see it much larger. This is especially useful in flight or for those of us whose eyesight isn't what it used to be.

## Nearby Weather

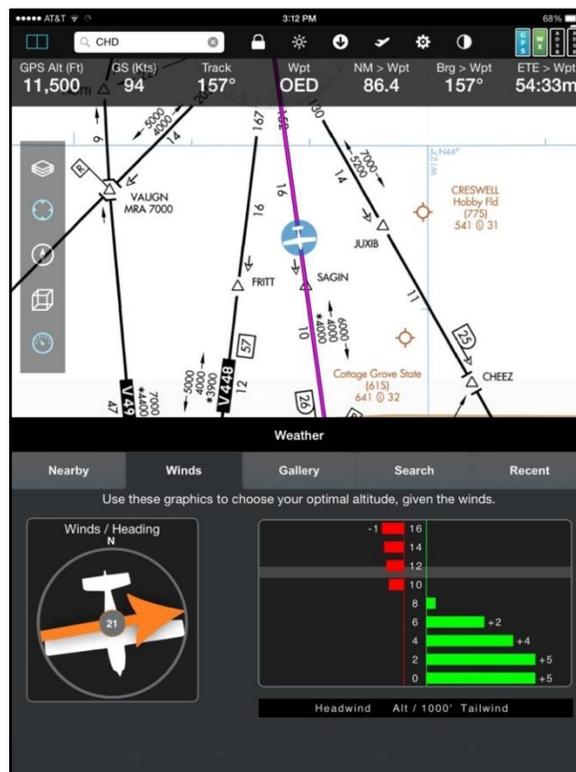
Tap the large **Weather** tab at the bottom of the screen to see essentially the same information as described above for your current GPS location.

## Graphical Wind Optimizer

At a glance, this very useful feature answers the age-old in-flight question of whether to fly higher or lower. The Graphical Wind Optimizer shows what the winds are like relative to your current track and what kind of headwind or tailwind to expect, given your current course, at different altitudes.

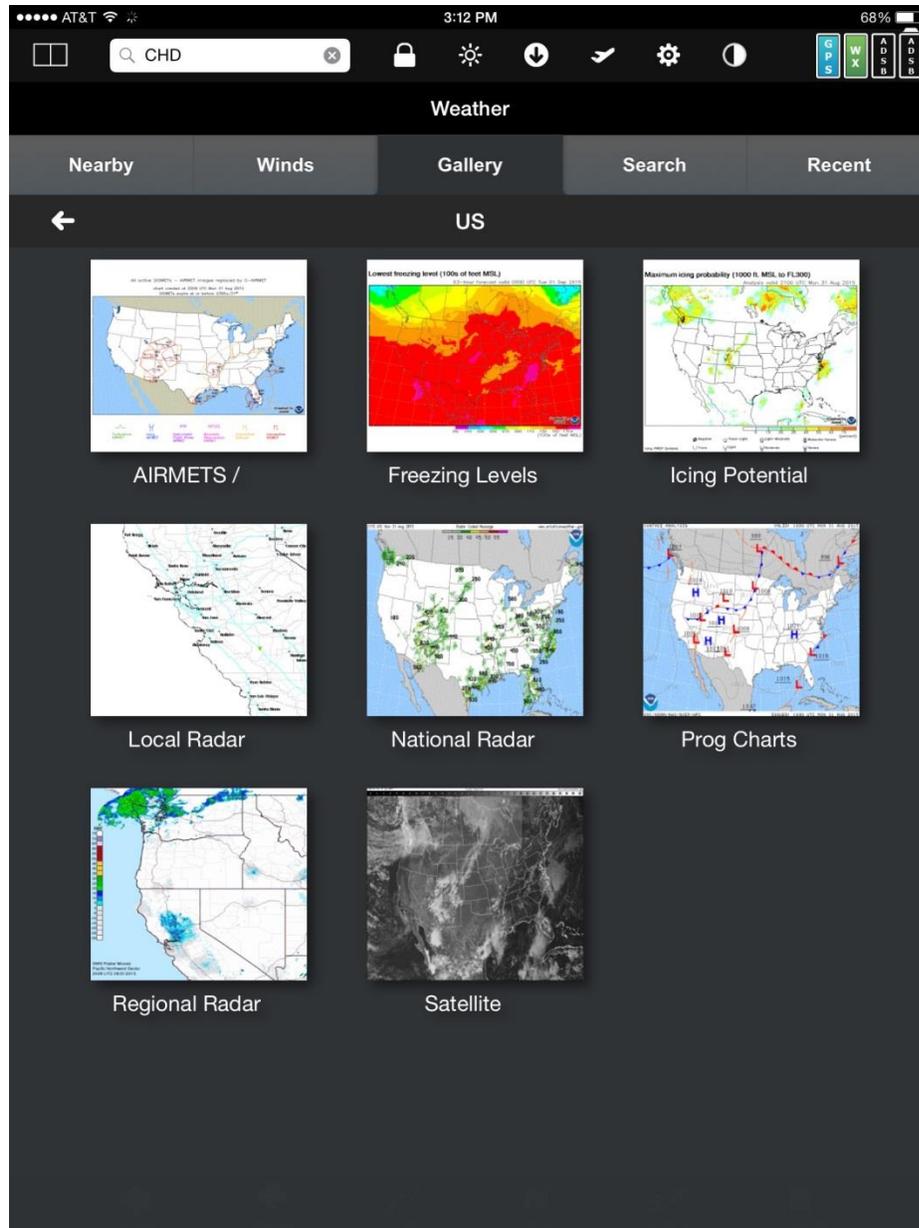
To view the Graphical Wind Optimizer, tap the **Weather** tab at the bottom of the screen then select the **Winds** tab. An example is shown below. In the graph on the right, the various headwind (red) and tailwind (green) components in knots are shown for every altitude from 0 to 16,000 ft. Altitude values in the graph have the 000's removed for clarity. In this example, flying at 16 (16,000 ft) would result in a 1 kt headwind while flying at 2,000 ft will result in a 5 kts tailwind.

Similarly, the representation of an aircraft on the left with an arrow passing through it indicates a 21 kts wind that is almost a perfect crosswind at the current altitude. The current altitude is shown both on the gauge above the map (11,500) and by the light gray bar on the graph.



# Weather Gallery

FlyQ+ EFB gives quick and easy access to hundreds of US and Canadian weather graphics. Tap the main **Weather** tab then choose the **Gallery** tab.



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# Flying with FlyQ+ EFB

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## Slingshot Wireless ChartData Transfer

FlyQ+ EFB has the ability to transfer downloaded ChartData to certified and experimental panel systems. In this way, you avoid having to download data separately to a PC and then transferring the files to a USB stick or data card for your in-panel system. Rather, with Slingshot, simply download the usual ChartData for FlyQ+ EFB, bring FlyQ+ EFB into your aircraft, and then click a few buttons on your avionics to wirelessly transfer the data you have already downloaded. This can save hours of tedious updating and data copying.

 <hr/> <p>Introducing Slingshot Wireless ChartData System</p>	<p>So ... how about combining them?</p>  <p>15 minutes</p>
--	---

Learn more about Slingshot from

<https://seattleavionics.wordpress.com/2018/07/19/announcing-slingshot-wireless-chartdata-system/>

To enable Slingshot, tap **Settings** then **Preferences** and switch the **Allow Slingshot access** option to *ON*. It's off by default as it uses a little more battery power.

Then follow the instructions for downloading data on your certified or experimental in-panel system. Slingshot is currently supported by the BendixKing xVue Touch and AeroVue Touch systems. Several other devices are being adapted for Slingshot compatibility. Seattle Avionics currently provides ChartData for many different systems including those from BendixKing, Dynon, Aspen, AFS, GRT, Xavion, Naviator, AvPlan, and many more.

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## External Devices and Applications

FlyQ+ EFB supports a large and growing number of connections to external devices. In addition to more than 20 ADS-B systems (see [Supported ADS-B Devices](#) on page 145), FlyQ+ EFB connects to various in-panel systems, GPS systems, and flight simulators.

Product	GPS	AHRS	ADS-B	Flight Plan Transfer	ChartData	Slingshot
Dynon SkyView	Yes	Yes	Yes	Yes	Yes	No
AFS 5xxx series	Yes	Yes	Yes	Yes	Yes	No
Avidyne IFD	Yes	Yes	Yes	Yes	No	No
BendixKing xVue Touch	N/A	N/A	N/A	N/A	Yes	Yes
BendixKing AeroVue Touch	N/A	N/A	N/A	N/A	Yes	Yes
Aspen Connected Panel	No	No	No	Yes	Yes	No

### Dynon SkyView and AFS AF-5xxx Series

With the addition of an inexpensive Wi-Fi adapter, your SkyView and AFS system can send GPS, AHRS, and ADS-B information to FlyQ+ EFB as well as bi-directionally exchange flight plans. Contact Dynon or AFS to purchase the Wi-Fi adapter.

#### Connecting FlyQ+ EFB to SkyView or AFS

The in-panel system creates a Wi-Fi network when the Wi-Fi adapter is properly connected. Connect your iPad/iPhone to it just as for any other normal Wi-Fi network by using the Settings app on your iPad/iPhone. The name of the Wi-Fi network will include the device name.

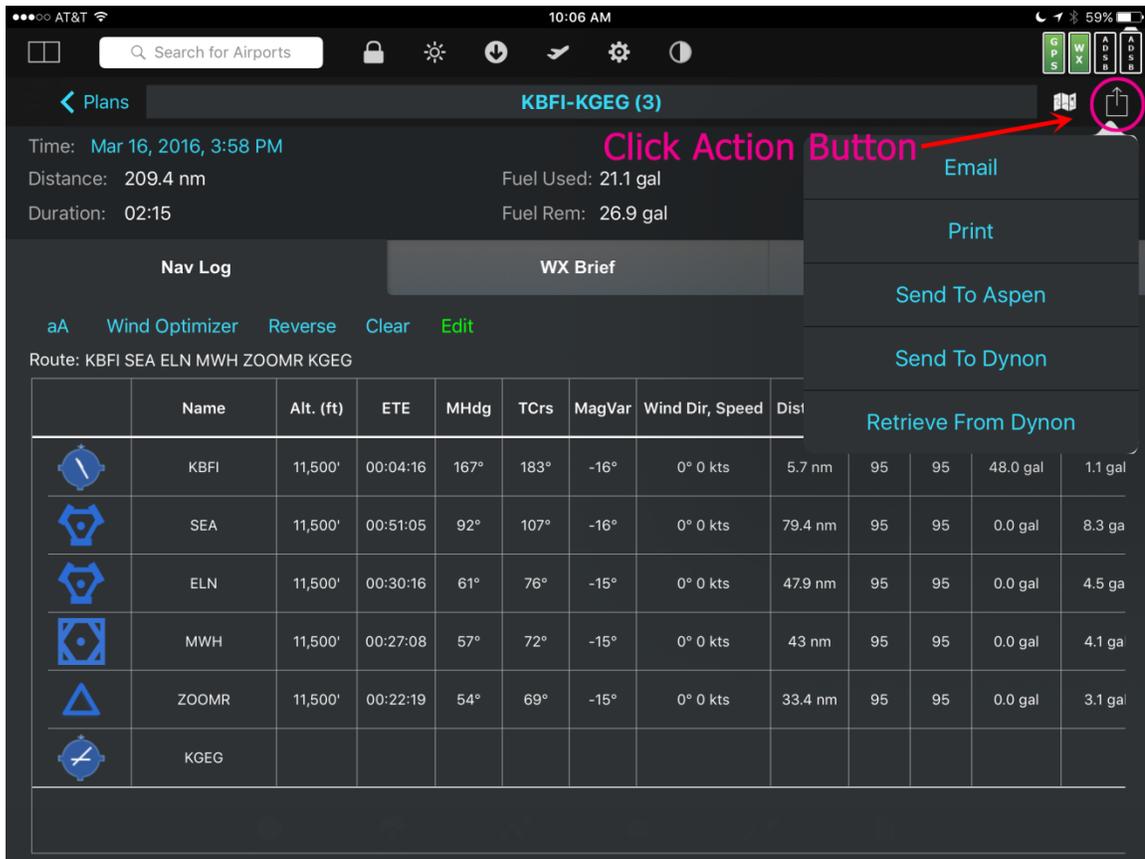
Open FlyQ+ EFB once the iPad/iPhone is connected to the network. Within a few seconds, you'll see a message that your device is connected to FlyQ+ EFB. At that time, the GPS and AHRS data from the Dynon or AFS device will be used in FlyQ+ EFB. You'll also see ADS-B traffic and weather on FlyQ+ EFB if your SkyView is connected to an ADS-B system (SkyView software release 15 or later is required for the ADS-B data). You can see additional information about the connection by tapping the status indicators at the top right corner of the FlyQ+ EFB screen and selecting the *ADS-B* tab.

#### Notes:

Your iPad/iPhone cannot connect to the Internet via Wi-Fi when it's connected to the SkyView or AFS network. If your iPad/iPhone has a cellular connection, it can still connect to the Internet through that system. However, in that case, FlyQ+ EFB treats the SkyView / AFS connection like an ADS-B connection and will not access the Internet in order to ensure good performance (that is, cellular connections in-flight are tenuous at best so the system works better by not trying to use them).

Currently, FlyQ+ EFB will display *Dynon* even when an AFS system is connected.

## Sending and Receiving Flight Plans



1. Go to the **Plans** tab and select the **NavLog** tab.
2. Tap the **Action**  button at the upper right corner.
3. Tap **Send to Dynon** to push the current flight plan to Dynon SkyView or AFS.  
OR  
Tap **Retrieve from Dynon** to pull the flight plan loaded on SkyView or AFS.

**Notes:** FlyQ+ EFB almost always has a flight plan open. However, if one is not open, you'll need to open or create one to see the **NavLog** tab.

The *Dynon* options are only shown if FlyQ+ EFB is connected to SkyView or AFS.

### Avidyne IFD440, 540, and 550

The new Avidyne IFD440, 540, and 550 systems include an integrated Wi-Fi adapter that works with FlyQ+ EFB. With IFD software version 10.2 or later, your Avidyne system can send GPS, AHRS, and ADS-B weather and traffic information to FlyQ+ EFB as well as bi-directionally exchange flight plans. GPS data is available with IFD version 10.1.

### Connecting FlyQ+ EFB to the IFD440, 540, or 550

The in-panel system creates a Wi-Fi network. Connect your iPad/iPhone to it just as for any other normal Wi-Fi network with the Settings app on your iPad/iPhone. The name of the Wi-Fi network will include the device name.

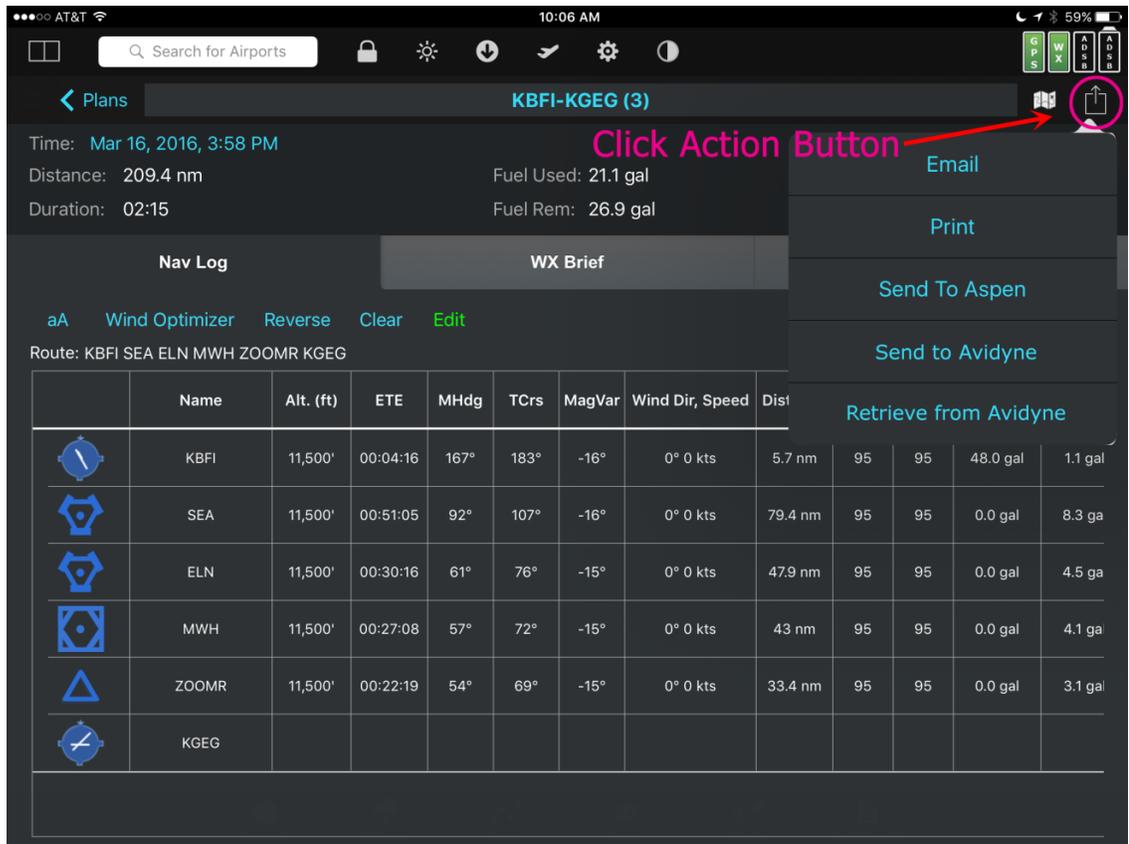
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Open FlyQ+ EFB once the iPad/iPhone is connected to the network. Within a few seconds, you'll see a message that your device is connected to FlyQ+ EFB. At that time, the GPS, AHRS, and ADS-B data (if applicable) from the Avidyne will be used in FlyQ+ EFB. You can see additional information about the connection by tapping the Status indicators at the top right corner of the FlyQ+ EFB screen and selecting the *ADS-B* tab.

**Tips:**

- Your iPad/iPhone cannot connect to the Internet via Wi-Fi when it's connected to the Avidyne network. If your iPad/iPhone has a cellular connection, it can still connect to the Internet through that system. However, in that case, FlyQ+ EFB treats the Avidyne connection like an ADS-B connection and will not access the Internet in order to ensure good performance (that is, cellular connections in-flight are tenuous at best so the system works better by not trying to use them).
- To get weather and traffic, you'll need an MLB100 / Skytrax with the latest firmware. However, the system must be configured so that both ADS-B traffic and weather information is coming through the same IFD RS-232 ports. If not, you may miss weather or traffic.
- Prior to Avidyne's 10.2.0 software upgrade, ADS-B traffic had to be on a separate data type and MLB100 display port (ARINC 429) from ADS-B weather (RS-232). With software version 10.2.0, for full ADS-B (not Skywatch) display on any Avidyne IFD, the ADS-B traffic and weather share the same RS-232 ports on both the IFD and MLB100.
- If you're not sure how the IFD should be configured for full ADSB, contact Avidyne Technical Support.

## Sending and Receiving Flight Plans



1. Go to the **Plans** tab and select the **NavLog** tab.
2. Tap the **Action**  button at the upper right corner.
3. Tap **Send to Avidyne** to push the current flight plan to the IFD440/540.  
OR  
Tap **Retrieve from Avidyne** to pull the flight plan loaded on the IFD440/540.

**Notes:** FlyQ+ EFB almost always has a flight plan open. However, if one is not open, you'll need to open or create one to see the **NavLog** tab.

The *Avidyne* choices are only shown if FlyQ+ EFB is connected to an IFD440/540.

## BendixKing xVue and AeroVue Touch

The new BendixKing xVue Touch and AeroVue Touch devices include an integrated Wi-Fi adapter that works with FlyQ+ EFB. These devices support wireless transfer of geo-referenced IFR approach plates, airport diagrams, scanned Sectionals, and scanned IFR Low and High Altitude charts using our Slingshot wireless system.

They do not currently support sending FlyQ+ EFB their GPS, AHRS, or ADS-B weather / traffic information or transferring flight plans.

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## Connecting FlyQ+ EFB to the xVue or AeroVue Touch

The in-panel system creates a Wi-Fi network. Connect your iPad/iPhone to it just as for any other normal Wi-Fi network with the Settings app on your iPad/iPhone. The name of the Wi-Fi network will include the device name.

Open FlyQ+ EFB once the iPad/iPhone is connected to the network. There is no notification that FlyQ+ EFB is connected to these devices as they do not send positional or ADS-B data to FlyQ+ EFB.

Slingshot is disabled by default. It must be enabled for wireless ChartData transfer to work. Enable it from **Settings > Preferences > Allow Slingshot access**.

Your iPad/iPhone cannot connect to the Internet via Wi-Fi when it's connected to the BendixKing network. If your iPad/iPhone has a cellular connection, it can still connect to the Internet through that system.

## Aspen Connected Panel

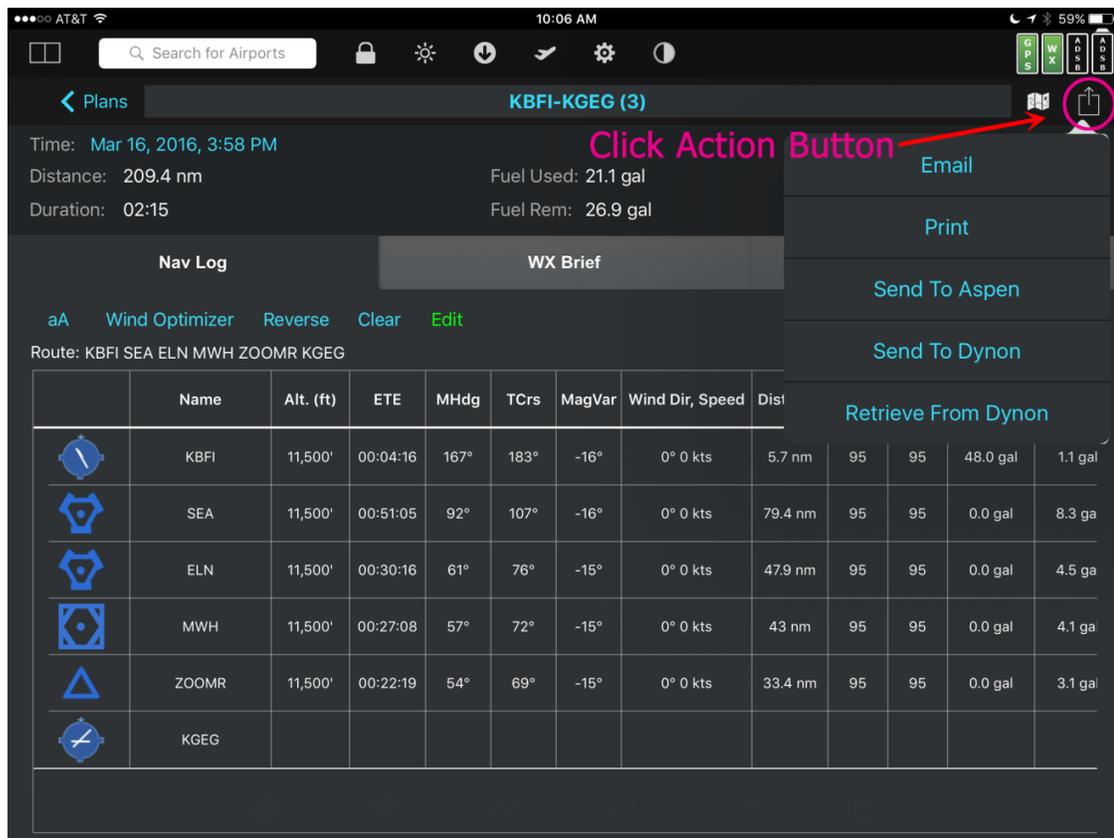
The Aspen Evolution system can receive flight plans sent from FlyQ+ EFB with the addition of the Aspen Connected Panel. With the Connected Panel, the FlyQ+ EFB flight plans transfer to your system's GPS such as the Garmin 430/530.

## Connecting to the Aspen Connected Panel

The Connected Panel creates a Wi-Fi network. Connect your iPad/iPhone to it just as any other normal Wi-Fi network with the Settings app on your iPad.

**Note:** Your iPad/iPhone cannot connect to the Internet via Wi-Fi when it's connected to the Connected Panel network. If your iPad/iPhone has a cellular connection, it can still connect to the Internet from that system. However, in that case, FlyQ+ EFB treats the Connected Panel connection like an ADS-B connection and will not access the Internet in order to ensure good performance (that is, cellular connections in-flight are tenuous at best so the system works better by not trying to use them).

## Sending Flight Plans



Go to the **Plans** tab and select the **NavLog** tab. Tap the **Action**  button at the upper right corner. Tap **Send to Aspen** to push the current flight plan to Connected Panel.

## X-Plane Flight Simulator

FlyQ+ EFB supports X-Plane version 10.2 or higher. To set it up:

1. Ensure you're using the latest version of X-Plane (10.2 or greater required).
2. Make sure your iPad/iPhone and the computer running X-Plane are on the same Wi-Fi network.
3. You'll need to tell X-Plane what the IP address of your iPad/iPhone is. To do that:
  - a) Tap the **Settings** app on your iPad/iPhone (usually on the home screen).
  - b) Tap **Wi-Fi**.
  - c) Look for the Wi-Fi network with a checkmark next to it and tap it to see more details. **Note:** If no network has a checkmark, you cannot connect X-Plane and FlyQ+ EFB.
  - d) Write down the value you see in the **IP Address** field.
4. Launch X-Plane on your computer.
5. Select **Settings** then tap **Net connections** and **iPhone/iPad**.

- 
6. Check the box for **Send AHRS and ADS-B data to Xavion or FlyQ+ EFB**.  
**Important!** If you see a Xavion option without FlyQ+ EFB, use the Xavion option instead of the FlyQ+ EFB option as there was a labeling error in earlier versions of X-Plane.
  7. Enter your iPad or iPhone's IP address in the text field next to **Send AHRS and ADS-B data to Xavion**.  
The field probably has a value like *192.168.0.1* by default. That value will not generally work and needs to be replaced by the actual IP address of your iPad or iPhone. Leave the *48002* value unchanged.
  8. Click the **X** in the corner of the **Net Connections** window to return to X-Plane.
  9. Open FlyQ+ EFB.
  10. Within a few seconds, FlyQ+ EFB will inform you that it's connected to X-Plane.

## Microsoft Flight Simulator / Prepar3D

FlyQ+ EFB will automatically recognize Microsoft Flight Simulator or Prepar3D when you use the FSXFlight plugin. See <http://www.fsxflight.com/> for more info.

When connected, FlyQ+ EFB will use the GPS, AHRS, and traffic information (if any) sent from the simulator.

## Other Simulators

In general, any simulator that works with other iPad/iPhone apps should automatically work with FlyQ+ EFB. In some cases, you may need to use the settings marked for ForeFlight or WingX.

## GPS

FlyQ+ EFB automatically uses any external GPS connected to your iPad or iPhone. Apple must approve external Bluetooth GPS devices so not all work with the iPad/iPhone. The most commonly used approved devices are the Dual XGPS150/160, the Bad Elf, and the Garmin GLO. They are all about \$100 and all work well with FlyQ+ EFB, and *much* better than the iPad/iPhone's internal GPS. If you choose not to use an ADS-B receiver (almost all of which include a WAAS GPS), we very strongly suggest using an external GPS.

External GPS devices connect to the iPad/iPhone at the operating system level, not directly to FlyQ+ EFB. The operating system sends the location information to FlyQ+ EFB and any other app that requests it. Therefore, it is critical that **Location Services** is turned on in the iPad/iPhone's settings and that **Location Services** is specifically allowed for FlyQ+ EFB.

1. Open the **Settings** app on your iPad/iPhone.
2. Select **Privacy** on the left side panel.
3. Ensure that **Location Service** is *ON*.
4. Tap **Location Services** and look for *FlyQ+ EFB*.

- 
5. Ensure that FlyQ+ EFB is set to *While Using*.

FlyQ+ EFB will display the source of the GPS connection when you tap the status indicators at the upper left corner of the screen. However, since the operating system is supplying the GPS location to FlyQ+ EFB, the app will show *iPad (or iPhone) / Bluetooth* as the data source. This cannot be helped because the iPad does not specify what the source of location is.

**Note:** Some GPS devices have a utility app. Please do not open them while FlyQ+ EFB is running as they tend to “grab” the GPS feed and prevent FlyQ+ EFB from working properly. This is especially true with the Dual app.

## AHRS

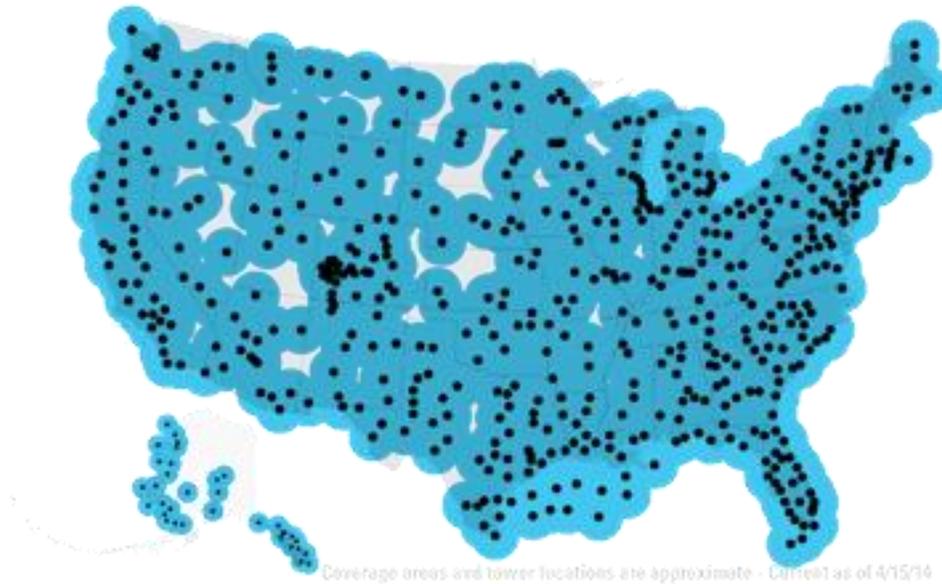
Many ADS-B systems include an AHRS (source for yaw, pitch, and roll information) that is very useful when using FlyQ+ EFB’s 3D (synthetic vision) map. These include the Merlin, iLevel devices, Dual XPS190, Clarity, some Stratux devices, and SkyRadar DX. FlyQ+ EFB automatically uses the AHRS feed from these devices when they’re connected and you do not need to do anything additional.

FlyQ+ EFB also supports two standalone AHRS units: the Level miniG and the Dynon D2. To use these units:

1. Turn the device on and allow it to “warm up” for a minute or so.
2. Connect your iPad/iPhone’s Wi-Fi source to the network generated by the device.
3. Open FlyQ+ EFB.
4. In FlyQ+ EFB, go to **Settings** and look in the **Device** section.
5. Switch **Level AHRS / Dynon D2 AHRS** to *ON*.

## ADS-B

ADS-B is an FAA acronym for *Automatic Dependent Surveillance-Broadcast*. The FAA created ADS-B to provide more accurate traffic information to ATC so they can manage the national airspace more efficiently (that is, land more airliners). In the US, as of January 1, 2020, all aircraft operating in areas with high traffic (e.g., the 30 NM Mode C veil around Class B airspace) must transmit their location to air traffic control. When an aircraft does this, ground-stations respond by broadcasting all the traffic targets near that aircraft. Rudimentary weather is also transmitted to all aircraft near these ground stations regardless of whether or not a plane sends its location to the station.



Seattle Avionics is committed to open standards so FlyQ+ EFB supports a wide variety of different ADS-B systems from many manufactures. In this way, if newer/better technology comes along, you're not locked into using any single device. FlyQ+ EFB currently supports the Stratus 3, Merlin, Stratux, Clarity, Dual XGS170/ 190, SkyRadar receivers, iLevil receivers, Pathfinder, and systems from BendixKing, L-3, FreeFlight Systems, and NavWorx.

All US ADS-B receivers receive basic weather and traffic information from ground-based stations once you hit about 3,000 ft AGL. There are two different radio frequencies used for ADS-B: 978 MHz and 1090 Mhz. All ADS-B receivers receive weather and traffic data from nearby ground stations on the 978 MHz frequency. Some units also receive air-to-air traffic transmission on the 1090 MHz frequency to give you a much fuller picture of traffic. Weather is not transmitted on 1090 MHz.

### **ADS-B Traffic Limitations**

Although the FAA created ADS-B to help them with traffic management, the way FAA ground stations broadcast traffic is highly problematic and pilots must be aware of the very significant limitations. Specifically:



1. If your aircraft is not ADS-B Out equipped (that is, it has a transmitter as well as a portable receiver), you will only get ground-based traffic information on 978 MHz if another aircraft nearby has an ADS-B transmitter. Moreover, the traffic you see is traffic near him, not you. "Near" is defined as a hockey-puck shaped region centered on the transmitting aircraft with a radius of 15 NM and height of +/- 3500 ft. So there may well be traffic near you that you never see on the ADS-B feed.
2. If you see no traffic on your iPad or iPhone, it means either there really is no traffic or there may be traffic but no one in the area is ADS-B Out (transmitter) equipped. Worse, you cannot tell the difference!
3. A "dual channel" ADS-B receiver such as the Merlin, Stratux, Dual 190, or iLevel units provides substantially better traffic information because it also receives traffic broadcast air-to-air from airliners passing overhead.
4. To get the best possible traffic information, equip your plane with an ADS-B Out transmitter or a new 2020-compliant transponder in addition to the portable ADS-B receiver.

## Traffic in FlyQ+ EFB



ADS-B traffic is a map layer in FlyQ+ EFB, like any other map layer such as Radar, METARs, Obstacles, etc. By default, the **Traffic** layer switches on when an ADS-B receiver is connected. You can disable this in [Settings](#) (page 164).

Subject to the limitations noted above, FlyQ+ EFB shows traffic sent by ADS-B receivers using many features to help keep you safe (as described in the following sections).

---

## Relative Altitude and Climbing or Descending

In addition to icons, a text box above the icon tells you the altitude of the target relative to you. A '+' means the target is above you; a '-' means it's below you. The number shown is the altitude differential in hundreds of feet. Thus, a target marked as +30 is 3,000 ft above you. After the number, there may be an arrow at the top or the bottom of the text box. This indicates if the target is climbing (up arrow) or descending (down arrow).

**Note:** The relative altitude may be a little off because FlyQ+ EFB compares your *GPS* altitude to the *pressure* altitude encoded in the ADS-B feed.

## Two-Minute Line

For targets that are moving, FlyQ+ EFB shows a line that indicates where the target will be in two minutes at its current speed and direction. Longer lines therefore indicate faster aircraft.

## Threat-level color coding

Similar to many other places in the app, FlyQ+ EFB uses three colors to indicate threat-level:

- A white target with a light gray background is generally no threat.
- A white plane with an orange background is within 5 NM and +/- 2000 ft of you so should be considered a potential threat.
- A white plane with a red background and a red text box means imminent danger with a threat within 1 NM and +/- 1,000 ft.

---

**Tip:** Due to the way ADS-B works, you may see a shadow of your plane as a red-level threat, especially if your plane is ADS-B Out equipped. In that case, you can tell FlyQ+ EFB to hide your plane (or planes) by entering one or more tail numbers in the **Tail number(s) to ignore** option in [Settings](#) (page 164). This has no effect unless your aircraft has ADS-B Out or a Mode S transponder because only those data streams transmit your tail number to the ground station.

---

## 15 NM Ring

Turning on the **Traffic** layer also turns on a 15 NM ring centered on your position to help you judge distance. You can disable this in **Settings**.

## Traffic Filter

In high-traffic areas, you may see so many targets, often very far above you, that it's difficult to visually pick out the ones you really need to care about. FlyQ+ EFB has a

filter system that removes any traffic that is 'no-factor' (no threat). This is defined in the same way that the FAA determines nearby traffic.

When on the Traffic Filter is on, FlyQ+ EFB only shows traffic within a 15 NM radius of your position, +/- 3,500 ft. You can switch this filter on and off by tapping the gray text box on the 15 NM ring that says **15 NM, Traffic Filter: On/Off**.

### Traffic Filter Off

All ADS-B traffic



### Traffic Filter On

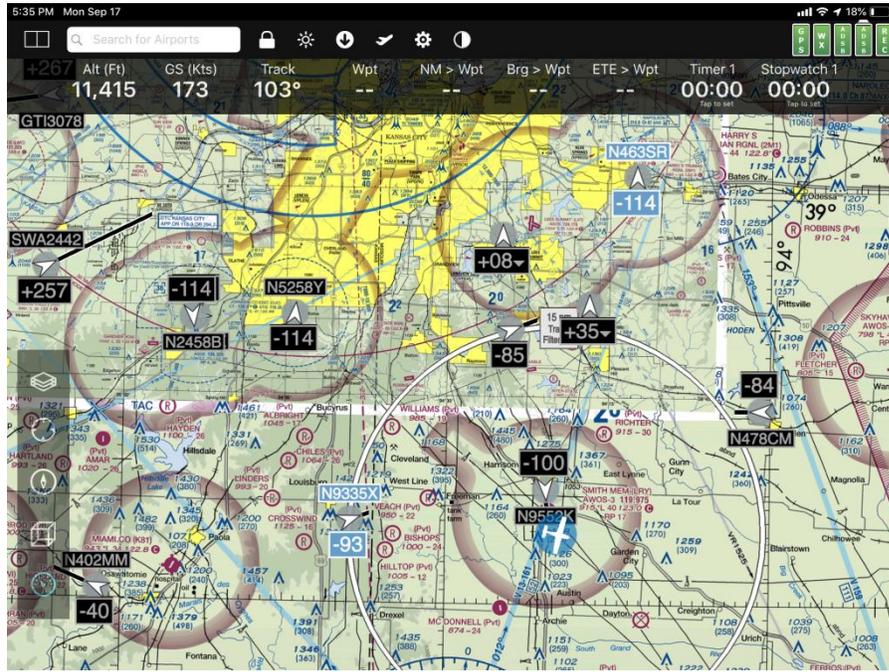
Only traffic within a 15 NM radius, +/- 3,500 ft.



**Note:** Even when the traffic filter is off, FlyQ+ EFB hides traffic more than 75 NM away to reduce screen clutter and improve system performance and memory utilization.

### Tail numbers

By default, FlyQ+ EFB displays the tail numbers (*Flight ID*, technically) of aircraft that transmit this information because they are equipped with ADS-B Out or a Mode S transponder (not a Mode C transponder). You will generally see the tail number for GA planes (like *N8515Q*) and the call sign for commercial airliners (like *UAL1234*). You can turn the tail number display off in **Settings**. You can even create your own **Buddy list** of tail numbers or Flight IDs (such as your friends' planes) that FlyQ+ EFB will highlight in light blue for quick identification (e.g., *N463SR* and *N335X* shown below).



Tap any traffic target to see more information. If multiple targets are near the tap, FlyQ+ EFB displays the following pop-up so you can select a specific target. In that case, FlyQ+ EFB also displays relative altitude for each target in the list (top) and, when a specific target is selected, that target is highlighted on the map. Each target in the list has a color bar on the left side of the list entry (green for *DAL1820* shown below). That same color is used in the top altitude display and when highlighting the target on the map.



## TFRs

FlyQ+ does not process TFR data from an ADS-B feed so TFRs do not get updated during flight; they must be preloaded before takeoff. Preload them by connecting to the Internet, open the ChartData Manager, and tap **Update**.

## Supported ADS-B Devices

Product	Single/Dual Channel	AHRS	Portable or Installed	Meets 2020 Mandate	Battery	Connection
Merlin	Dual	Yes	Portable	No	Yes	Wi-Fi
Stratux	Single/Dual	Yes/No	Portable	No	Yes/No	Wi-Fi
Stratus 3	Dual	Yes	Portable	No	Yes	Wi-Fi
Stratus 3i	Dual	Yes	Installed	Yes	Yes	Wi-Fi
Stratus 1 and 2	Not supported					
Garmin systems	Supported by adding a Merlin or Stratux receiver					
Dynon DRX	Dual	No	Portable	No	Yes	Wi-Fi
Dual XGPS 170	Single	No	Portable	No	Yes	Bluetooth
Dual XGPS 190	Dual	Yes	Portable	No	Yes	Bluetooth
iLevel AW or SW	Single	Yes	Portable	No	Yes	Wi-Fi
iLevel 2/3 AW or SW	Dual	Yes	Portable	No	Yes	Wi-Fi
SkyRadar DX	Dual	Yes	Portable	No	No	Wi-Fi
SkyRadar (other)	Single	No	Portable	No	No	Wi-Fi
Clarity SV	Dual	Yes	Portable	No	Yes	Wi-Fi
BendixKing KGX	Single	No	Installed	Yes	N/A	Wi-Fi
L-3 Lynx	Single/Dual	No	Installed	Yes	N/A	Wi-Fi
FreeFlight RANGR	Single	No	Installed	Depends	N/A	Wi-Fi
NavWorx ADS600	Single	No	Installed	Depends	N/A	Wi-Fi
SkyGuard TWX	Dual	No	Portable	Depends	No	Wi-Fi
FlightBox	Single/Dual	Opt.	Portable	No	Yes	Wi-Fi
Pathfinder	Single	No	Portable	No	Yes	Wi-Fi

## Connecting an ADS-B System

For any Wi-Fi based ADS-B system (all systems except the Dual XGPS 170 and 190):

1. Turn on your ADS-B system.
2. Let it warm up for about a minute.
3. Go to the **Settings** app on the iPad or iPhone.
4. Turn **Airplane mode ON** to disable other wireless services that might interfere with FlyQ+ EFB.
5. Turn only **Wi-Fi ON**. Leave all other wireless systems off.
6. Connect to the Wi-Fi Network that has your device's name or manufacturer in it unless otherwise instructed by your ADS-B manufacturer.  
**Note:** The iPad/iPhone may show a small **(i)** symbol with the words **Security Recommendation** next to the connection. **This is not an error or a problem;** it's the iPad/iPhone simply telling you that the ADS-B Wi-Fi connects only to the device, not to the Internet.
7. You should see FlyQ+ EFB notify you of a connection within one minute.

- 
8. If you turn the ADS-B off, the green *ADS-B* status light should turn red within about 60 seconds.

For the Dual XGPS-170 or 190:

1. Turn the XGPS-170/190 to *ADS-B*.
2. Let it warm up for about a minute.
3. Go to the **Settings** app on the iPad or iPhone.
4. Turn **Airplane mode ON**. This disables all wireless services that might interfere with FlyQ+ EFB.
5. Turn only **Bluetooth ON**. Leave all other wireless systems off.
6. If the receiver has not yet been paired with your iPad or iPhone, do so now.
7. You should see FlyQ+ EFB notify you of a connection within one minute.

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**Tip:** Tap the **Layers**  button on the map and check that the **Traffic** map layer on. The Traffic layer is automatically turned on when an ADS-B receiver is connected.

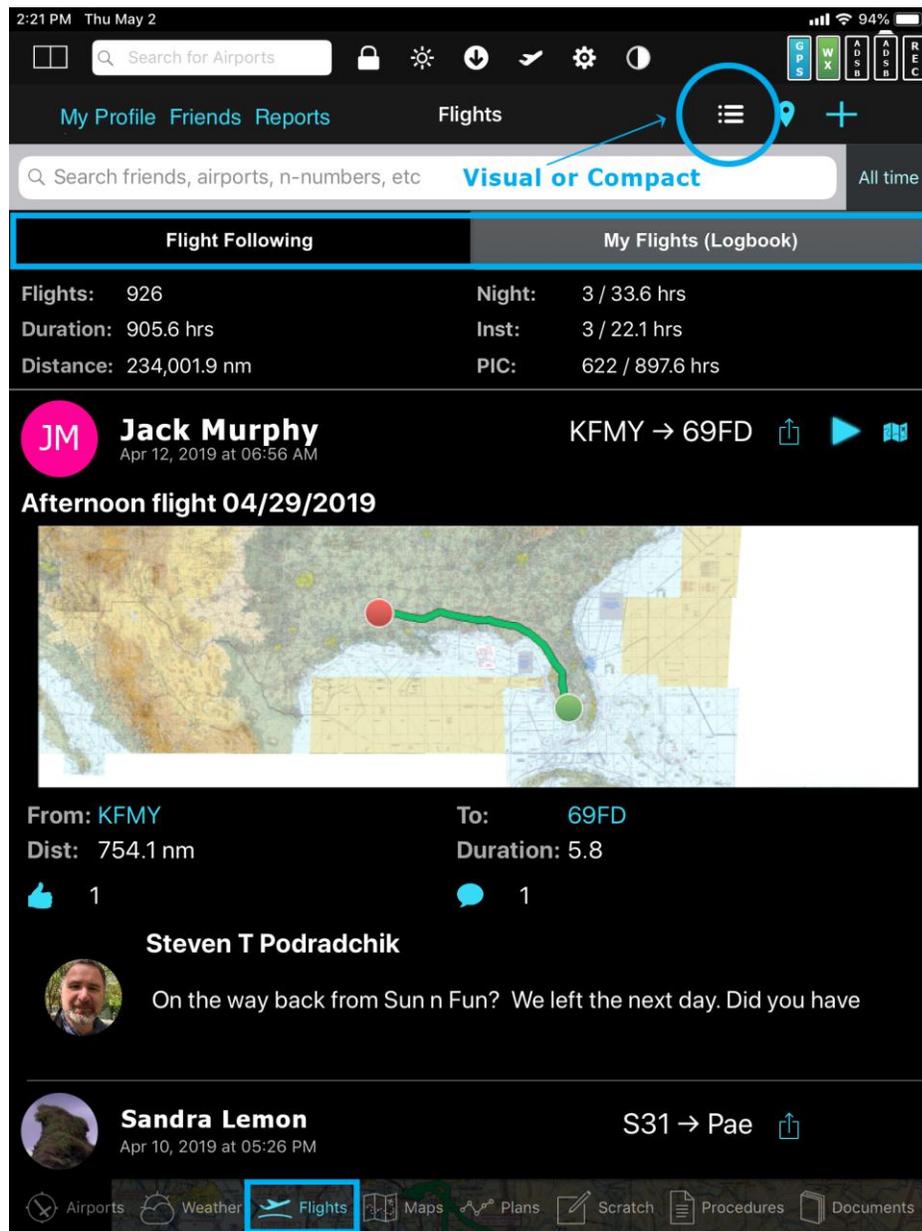
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# Flights (Visual Logbook)

FlyQ+ EFB includes a unique visual logbook. It includes all the usual data-entry fields and reporting you'd see in a standard logbook but adds mapping and graphing features (the *visual* part of the *visual logbook*) that go far beyond standard logbooks.

The visual logbook and all the related functions are located in the **Flights** tab at the bottom of the app. **iPhone Note:** You can re-arrange the tabs if you tap **More** (not shown) and **Edit** (see page 21).

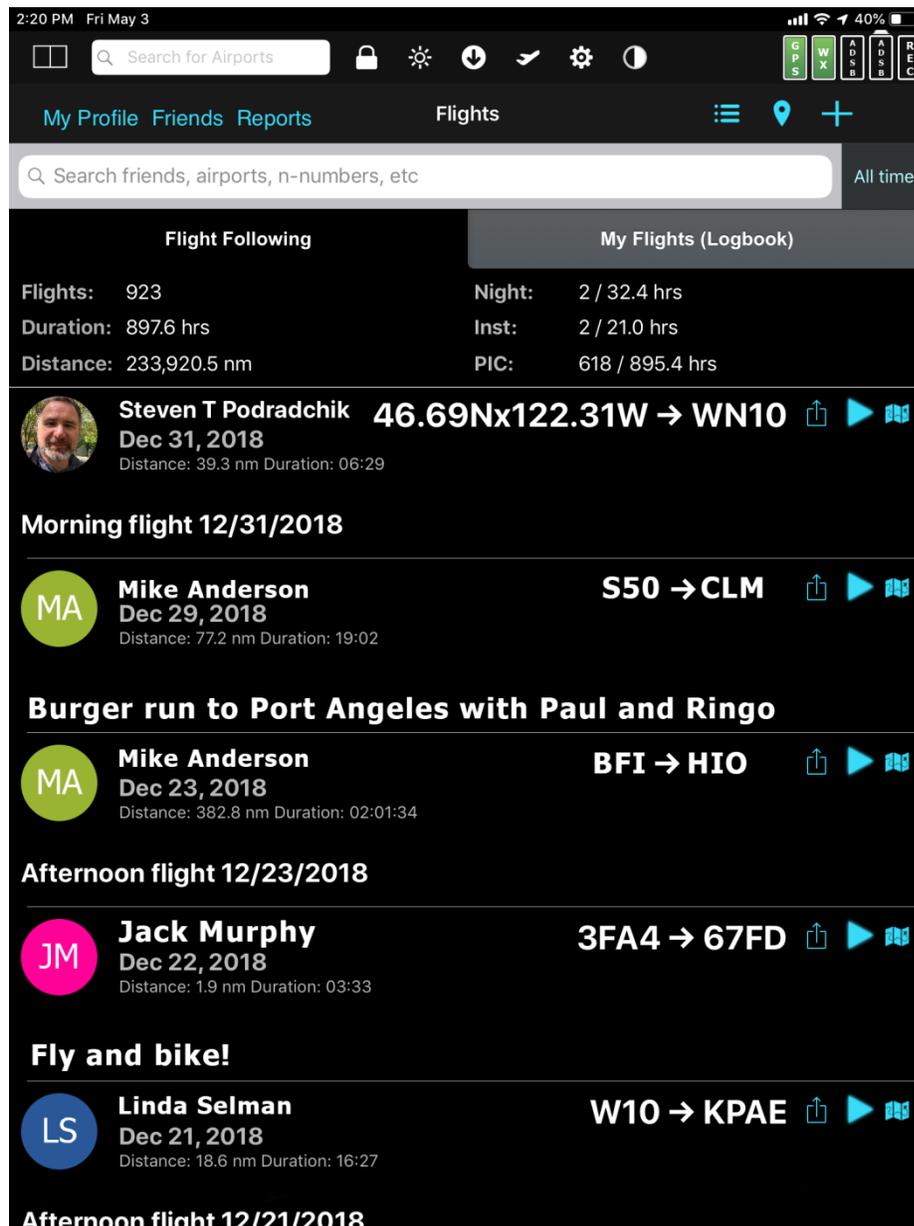
## Lists



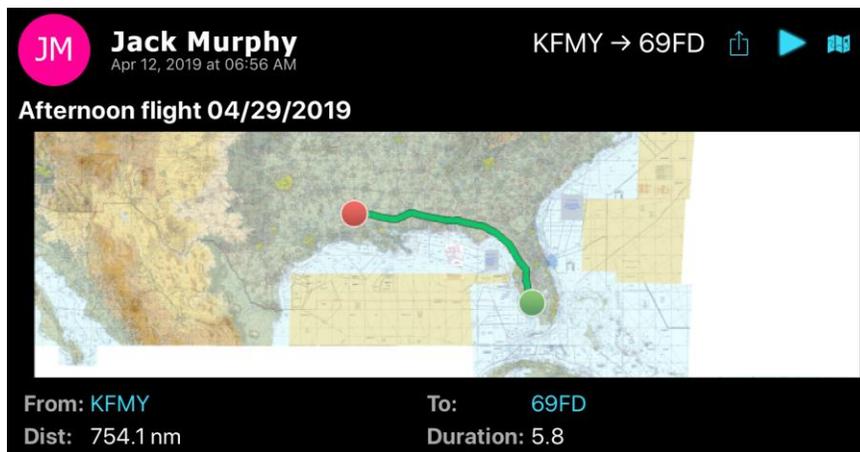
There are two tabs towards the top of the **Flights** area: **Flight Following** and **My Flights (Logbook)**. **My Flights (Logbook)** shows all your flights. **Flight Following** also shows all your flights but adds flights taken by the friends you want to follow. This is optional, of course (see **The Floq Network** for more info.)

You can view the lists in either a **Visual** (default) or **Compact** form. The default Visual view shows a VFR map with your flight track, summary information about each flight, and has buttons for social media **Likes** and **Comments**. The **Compact** view removes the VFR image, most summary info, and the social media buttons.

Switch between **Visual** (shown above) and **Compact** (shown below) modes with the  button at the top of the **Flights** area.



Each flight entry includes a lot of information and has buttons for additional actions:



- Use the **Play**  and **Map**  buttons at the top right to play or display the track in the main map area.
- Tap the pilot's icon (*JM* above) to see more information about the pilot and his or her flights.
- Tap an airport ident (*KFMY* and *69FD* above) to jump to information about the airport.
- Use the **Action**  button to export the flight, delete the flight, add a photo, print, etc.
- Tap anywhere else, such as on the track image or title, to see more details about the flight.

Flight statistics, based on the flights in the list, are shown just above the list itself. The statistics include the number of flights, total duration, and total distance. This area also shows the number of flights and hours flown at night, in instrument conditions, and as PIC (pilot in command).

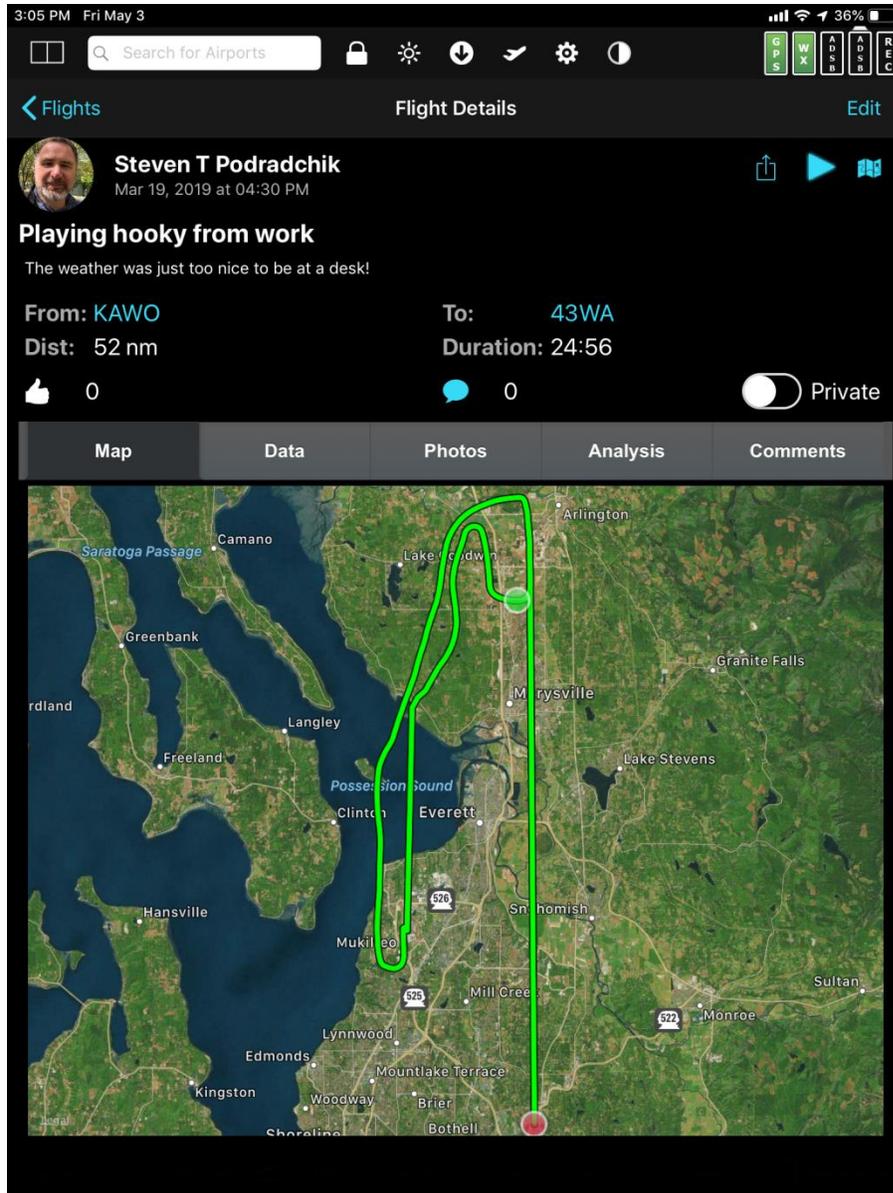
Flight Following		My Flights (Logbook)	
<b>Flights:</b>	923	<b>Night:</b>	2 / 32.4 hrs
<b>Duration:</b>	897.6 hrs	<b>Inst:</b>	2 / 21.0 hrs
<b>Distance:</b>	233,920.5 nm	<b>PIC:</b>	618 / 895.4 hrs

These totals are aggregated from the flights listed. Therefore, the numbers change as you flip between **Flight Following** and **My Flights** or apply any of the **Filter** or **Time Period** criteria discussed below. In this way, these totals could be thought of as an always-present, dynamic, quick summary report. More detailed reports and graphs are available from the **Reports** button at the top of the **Flights** list and within the **Profile** section. The reports and graphs are discussed on page 157.

## Flight Details

From the **List** view, tap any flight to see details or use the + button to manually add a new flight.

The **Map** tab shows your track over a satellite map where the green dot is takeoff and the red dot is landing. This view is only available when connected to the Internet. It also only appears for recorded flights; FlyQ+ EFB does not have the data to generate this view for flights imported from logbook apps or from manual data entry.



The top of the **Details** screen has much of the same information and actions as are available from the **List** view. That is, it shows the name of the pilot, date of the flight, description of the flight (optional), name of the flight, takeoff and landing airports,

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distance, and duration. It also has the same three buttons at the upper right corner: **Action** , **Play** , and **Map** .

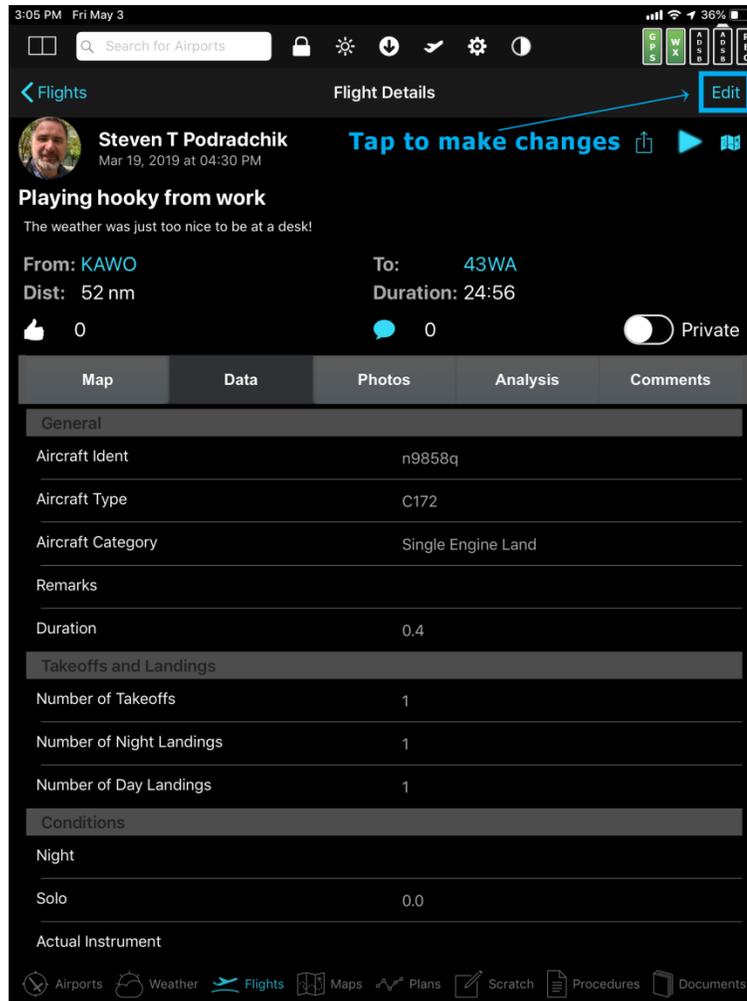
If this is your flight, tap **Edit** at the upper right corner to edit the details, then tap **Save** to store them.

Social media buttons include **Like**  and **Comment** . You can add comments to your own flight or flights that other pilots take, but you can't Like your own flight.

Each flight also has a **Private** setting. In general, your **Privacy Level** determines who, if anyone, can see your flights. This setting allows you to keep specific flights private even if you generally choose to share your flights with friends. If a flight is marked as **Private**, it won't appear in anyone else's data feed, just yours.

### Data Entry

The flight data recorder feeds the logbook so you don't have to manually enter all the aspects of your flight. In fact, if you're upgrading from an earlier version of FlyQ+ EFB, your logbook already contains all the flights you've taken since FlyQ+ EFB 3.0 was released. You can edit and delete any flights added by the recorder or even shut the data recorder off (in **Settings**).



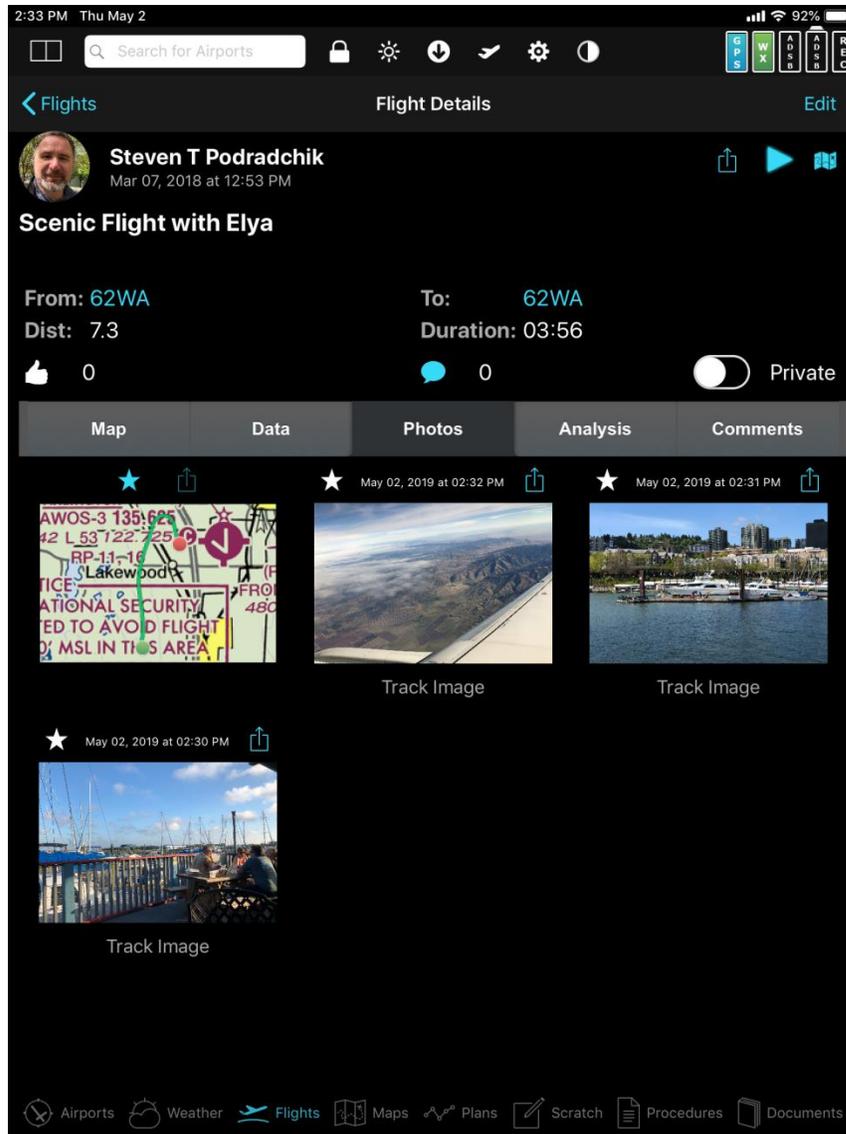
Tap + at the top right of the **List** view to manually enter a flight. Import existing logbook data from other systems using FlyQ+ EFB Online at <https://FlyQ.seattleavionics.com/>.

The **Data** tab shows the standard logbook data fields about the flight. The fields are read-only. An **Edit** button is available at the upper right corner of the screen, if this is your flight, so you can make changes (shown above). Tap the **Save** button to commit changes or go back to the **Flights** list to discard them.

### Photos

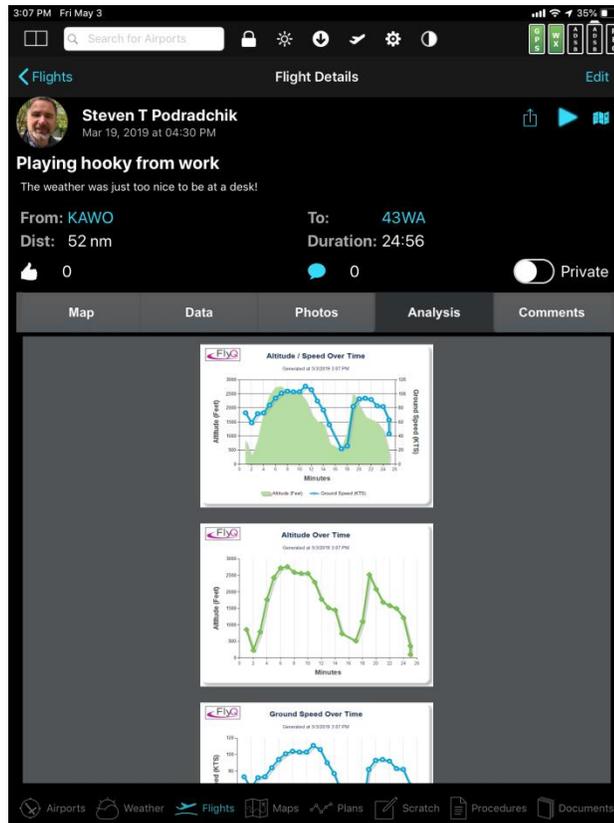
The Photos tab shows any photo you've associated with the flight and the VFR map image of the flight track. Use the star button above each photo to select which image is shown in the List view. Tap any photo to see it full-screen and use the **Action**  button above the photo to share it or delete it.

Note: Use the main Action  button at the top of the screen to add more photos.

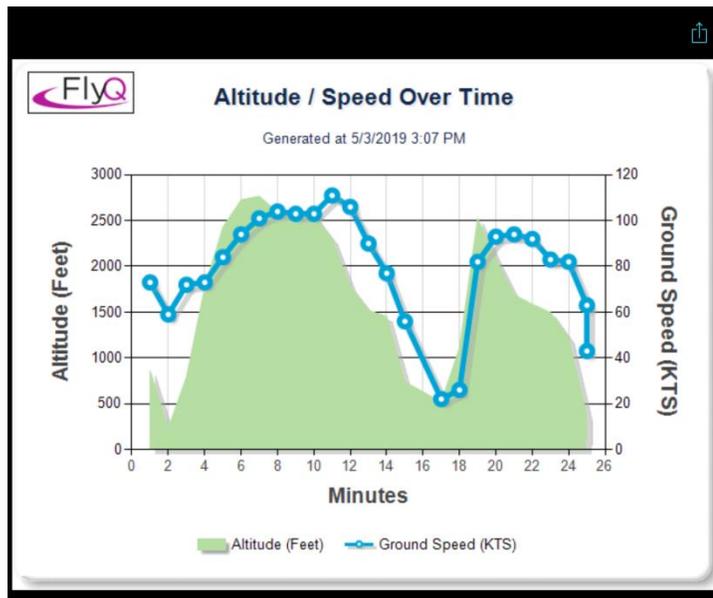


## Analysis

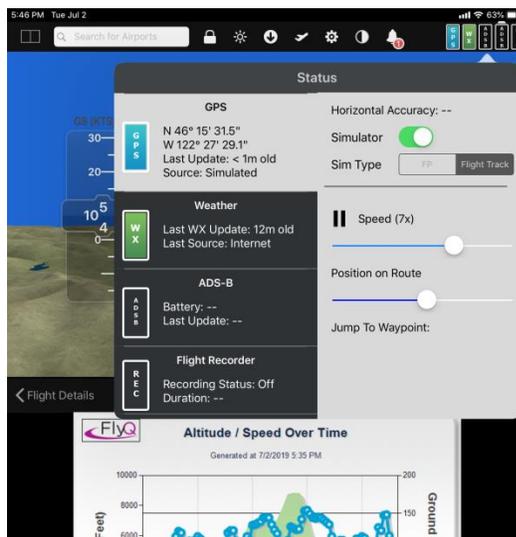
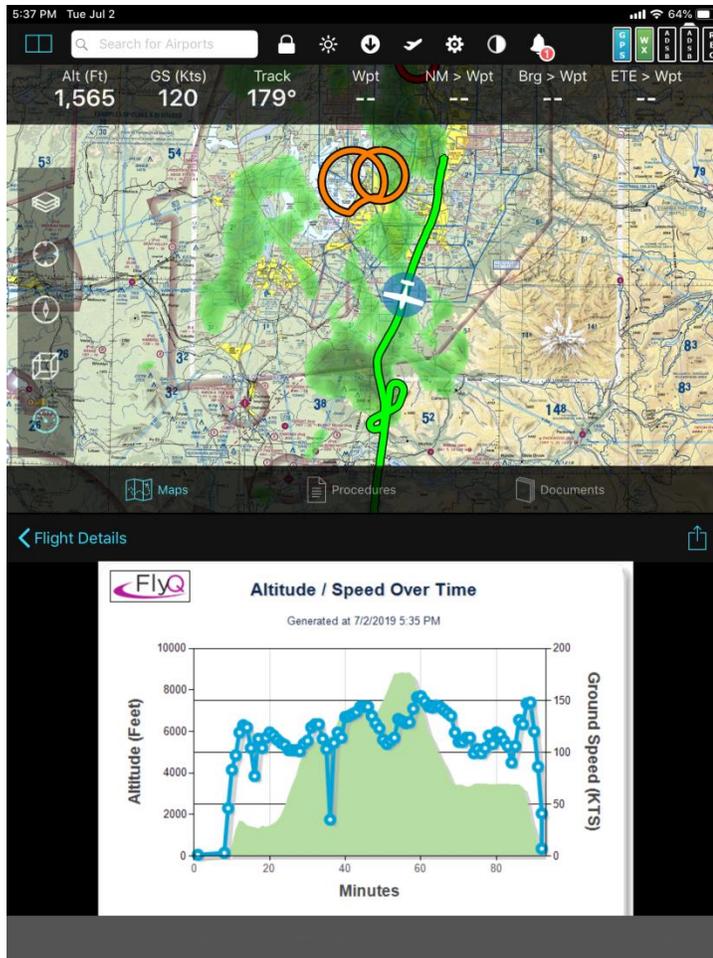
Select the **Analysis** tab to show compelling graphs about how your altitude and/or speed changed over the course of the flight. In the future, you'll also see very detailed graphs showing engine temperature, performance, and other metrics.



Each image can be printed, emailed, sent via text message, deleted, or posted to social media by tapping the **Action**  button. Tap an image to see it full-screen.



FlyQ+ EFB can also use the built-in [GPS simulator](#) to play the flight, in either 2D or 3D mode, while displaying the graph. Tap the  button next to each flight. Playback speed can vary between real-time (1x) and 10x and you can instantly jump to any location (see page 30 for further information).



## Comments

The **Comments** tab shows any comments that you or other pilots have added. You can delete any comment you make to someone else's flight and any comment you or someone else adds to one of your flights.

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## Search (Filtering)

The **Search** field at the top of the **Flights** list makes it easy to search for flights by name, tail number, takeoff or landing airport, time, name of the pilot, aircraft type, or takeoff and landing pair (among other criteria). In addition to the list of matching flights, FlyQ+ EFB also gives a quick summary of those flights (total number of flights, total distance and duration, etc.) at the top.

Enter a search criterion to find specific flights (e.g., *C172* or *N8121Q* or *SFO* or *Johnson*, etc.) Use a space to separate multiple criteria. The system is smart in that different values for the same type of criteria (airports, tail numbers, names, aircraft types, etc.) are logically ORed while different types of criteria are ANDed. The criteria order does not matter.

The screenshot shows a search bar containing the text "C172 KPAE AWO" with a magnifying glass icon on the left and a close button (X) on the right. To the right of the search bar is a button labeled "Last 90 Days". Below the search bar is a summary table with two columns: "Flight Following" and "My Flights (Logbook)".

Flight Following		My Flights (Logbook)	
Flights:	25	Night:	0 / 0.0 hrs
Duration:	3.5 hrs	Inst:	0 / 0.0 hrs
Distance:	869.2 nm	PIC:	11 / 3.5 hrs

Examples:

*KPAE*

Find any flight to or from KPAE or any flight that mentions KPAE in the name.

*C172 KPAE AWO*

Flights made in a C172 that were to or from either KPAE or AWO.

*C172 PAE AWO*

Exactly the same as the previous example. In other words, the airport idents can be either FAA idents or ICAO idents.

*C172 C182 KPAE-AWO*

Flights using a C172 or C182 that are from KPAE to KAWO.

**Note:** The line between KPAE-AWO means from KPAE to AWO not from AWO to KPAE. Without the line, such as *C172 C182 KPAE AWO*, the app lists flights that either takeoff or land at either KPAE or AWO.

*Johnson HIO PDX BFI C152*

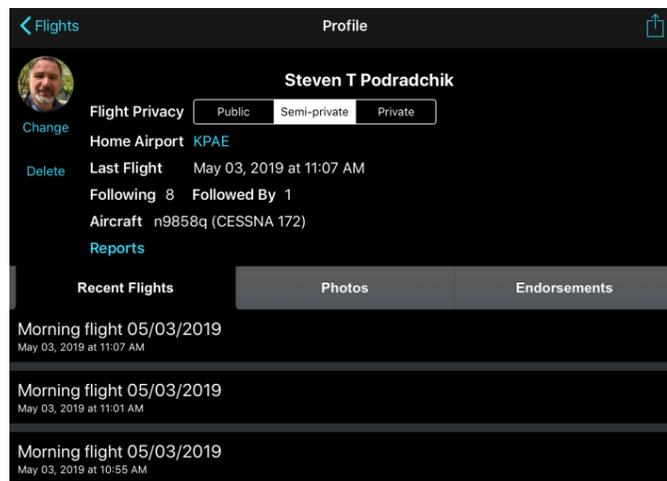
Flights that someone named Johnson made that include takeoffs or landings at HIO, PDX, or BFI while flying a C152. Note that Johnson could be the name of the pilot or be

in the name of the flight. For example, this filter would find a match if Paul Smith took a flight with Bob Johnson and named the flight “Scenic flight with Bob Johnson”.

Use the date selector to the right of the search box to narrow the results to a specific time period (e.g. *All, Yesterday, This Week, Last Month, Last 90 Days*, etc.) or enter a custom date range.

## Profile

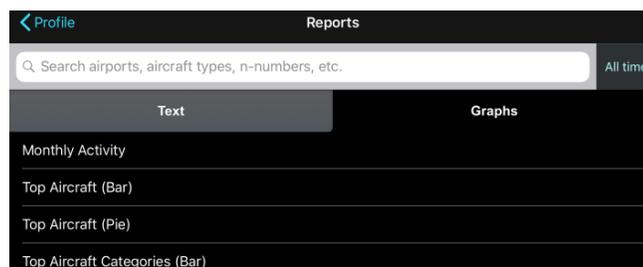
At the top of the **Flights** tab is a blue link called **Profile**. Tap it to review and modify your personal settings such as your privacy level (more on this in the [Flog Network](#) section on page 176), profile photo, and more. It also has tabs to show your recent flights, photos associated with your flights, and endorsements.



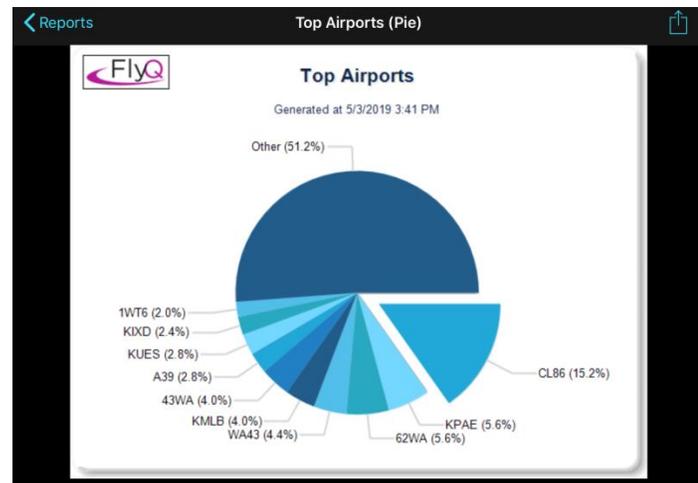
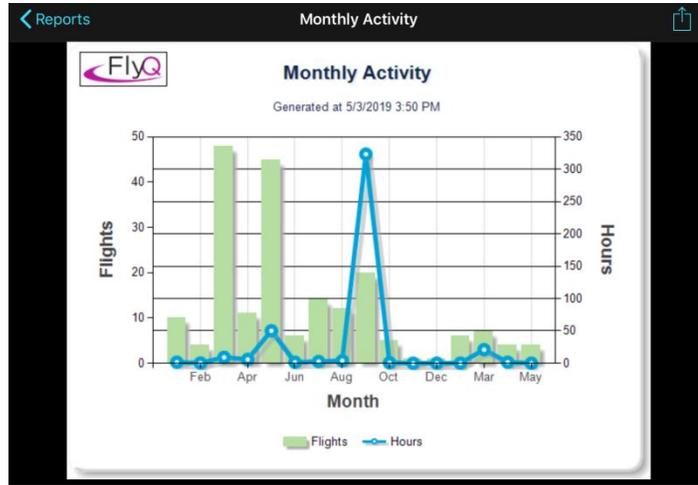
**Note:** Other pilots, depending on your privacy level, may see some of this information. With the default **Semi-Private** setting, other pilots can see your name, home airport, and the last time you flew but no flight details, photos or endorsements.

## Reporting

In addition to the filtering above, you can run about 20 reports and graphs by tapping the blue **Reports** link on the main **Flights** tab and within the **Profile** area. These reports replicate a printed logbook, summarizing your flying over time, report by airport, by tail number, by aircraft type, etc. The **Graphs** visually display information in colorful and understandable ways. The **Text** reports give more detail.



Filter the results of the reports using the same time and keyword system described in the **Search (Filtering)** section above. For example, limit the report or graph to particular tail numbers, aircraft types, airports, or during a specific time period.



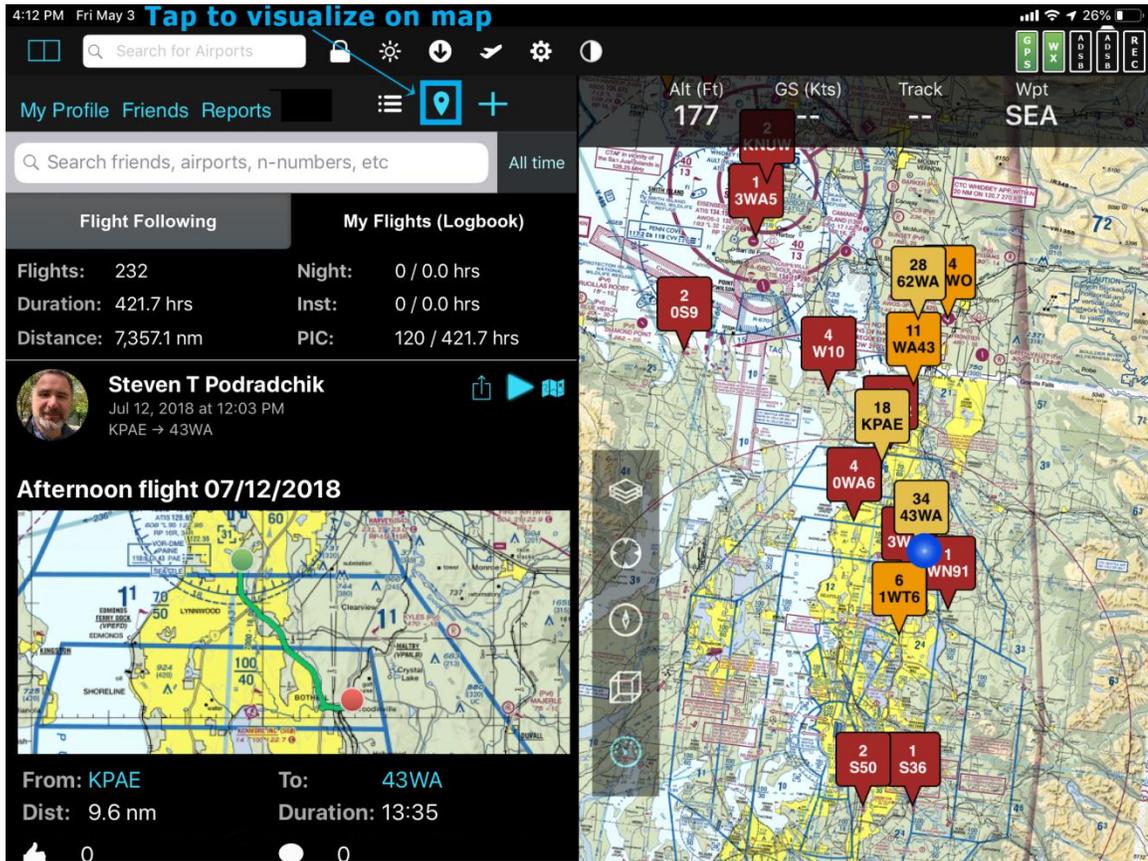
Monthly Activity  
Generated at 5/3/2019 3:50 PM

Month	Flights	Hours
May, 2019	4	0.0
April, 2019	4	1.5
March, 2019	7	21.0
February, 2019	6	0.1
December, 2018	1	0.1
November, 2018	1	0.0
October, 2018	5	0.6
September, 2018	20	323.4
August, 2018	12	4.0
July, 2018	14	2.6
June, 2018	6	1.4
May, 2018	45	50.2
April, 2018	11	5.9
March, 2018	48	9.1
February, 2018	4	0.3
January, 2018	10	1.5

General				Flight				Conditions of Flight			Types of Piloting Time					Total Duration	
Date	Type	Ident	Cat	From-To	Inst. Apps	T/O	Ldgs	Night	Act Inst	Sim Inst	Fit Sim	Cross Country	CFI	Dual Received	PIC	SIC	Total Duration
6/3/2019	C172	N9858Q	Single Land	KDKX S43		1	1								1.6		1.6
Remarks and Endorsements:																	
6/3/2019	C172	N9858Q	Single Land	KDKX KDKX		1	1								0.1		0.1
Remarks and Endorsements:																	
6/3/2019	C172	N9858Q	Single Land	KDKX KDKX		1	1								0.1		0.1
Remarks and Endorsements:																	
6/3/2019	C172	N9858Q	Single Land	KDKX S43		1	1								0.7		0.7
Remarks and Endorsements:																	
6/4/2019	C172	N9858Q	Single Land	KDKX 48NX121W		1	1								0.8		0.8
Remarks and Endorsements:																	
6/4/2019	C172	N9858Q	Single Land	KDKX KDKX		1	1								0.1		0.1
Remarks and Endorsements:																	
6/4/2019	C172	N9858Q	Single Land	KDKX KDKX		1	1								0.1		0.1
Remarks and Endorsements:																	
6/4/2019	C172	N9858Q	Single Land	KDKX 48NX121W		1	1								0.5		0.5
Remarks and Endorsements:																	
6/4/2019	C172	N9858Q	Single Land	41NX81W KP-OV		1	1								0.2		0.2
Remarks and Endorsements: Afternoon delight flight. Pattern work at pae. 3 touch and gos																	
6/4/2019	C172	N9858Q		S43 S43		1	1								0.8		0.8
Remarks and Endorsements:																	
6/5/2019	C172	N9858Q		KBFI W36		1	1								0.1		0.1
Remarks and Endorsements:																	
6/5/2019	C172	N9858Q		KBFI S60		1	1								0.2		0.2
Remarks and Endorsements:																	
6/5/2019	C172	N9858Q	Single Land	KPSP KPSP		1	1								0.1		0.1
Remarks and Endorsements: Test remark. Now this is a really long re,ark. Maybe something like toych and go, soft. Field technique.																	
6/20/2019	C172	N9858Q	Single Land	S43 W36		1	1								16.5		16.5
Remarks and Endorsements:																	
I certify that the entries in this log are true.				This page	692	690									469.6		469.6
				Forwarded	17034	17028									5910.2		5910.2
Pilot Signature				To date	17726	17718									6379.8		6379.8
Steven T Podradchik				Generated at 6/26/2019 03:01:44 (Zulu)										Page 50			

## Visualization Heat Map

A text list of where you've flown is nice but seeing it on a map is much better!



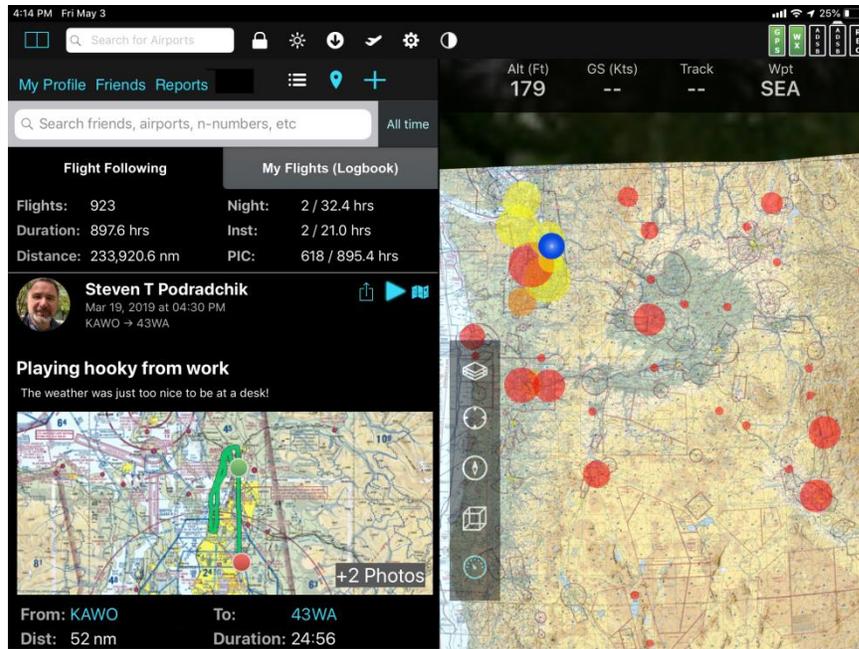
Tap the **Placemark**  button at the top of **Flights** and you'll see a heat map display of all the flights in the list. This unique feature analyzes all the airports in the list from which you've taken off or landed at and uses our standard Green, Yellow, Orange, and Red color-coding system to give a sense of which are the most common (green is most popular, red is least common). There is only one green airport, your single most-visited airport.

Remove the markers by tapping the **Layers**  button on the map bar and turn the **Logbook** layer off.

When the map is zoomed in (as above), you see colored markers for each airport with ids and the number of flights to or from the airport. Note that a flight to and from the same airport is only counted once.

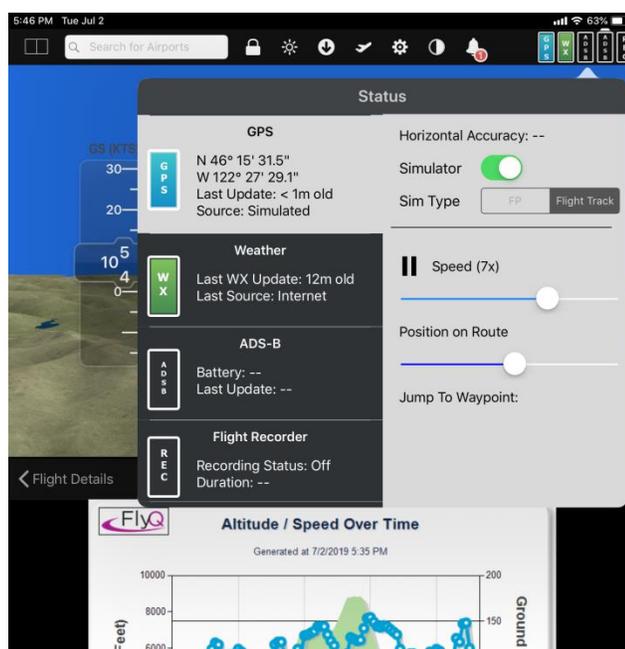
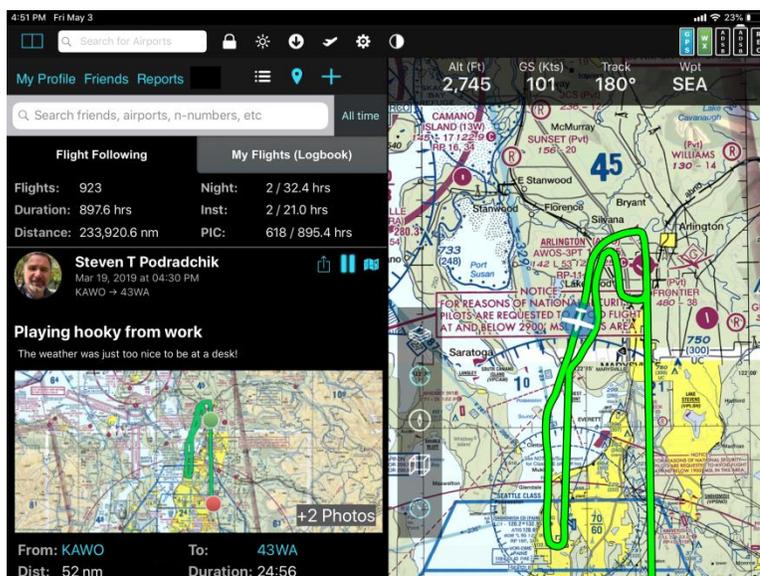
Tap a specific airport marker to list all the flights to or from that airport so you can find the details of such flights. This is convenient when used with the [Flog Network](#) feature (see page 176) so you can see which friends have flown to specific airports and ask questions about the airport, amenities, or the flight itself.

When the map is zoomed out (below), FlyQ+ EFB collapses the individual airports into colored regions (again, green most common, red least common). In the example below, we see more flights (yellow) just north and south of the Seattle area than in other parts of Washington and Oregon (red and orange). The blue dot is our current location.



## Playback

FlyQ+ EFB includes an integrated flight simulator. It can play a flight plan or a recorded track (flight) in either 2D or 3D. To play a flight, either yours or a friend's, press the **Play** button  next to any flight. See the [Built-in Simulator](#) section on page 30 for details about changing the playback speed and jumping to specific spots in the flight. **Note:** The Play button has been replaced with the Pause button  in the screenshot below because the flight is playing.



## Merging Flight Recordings

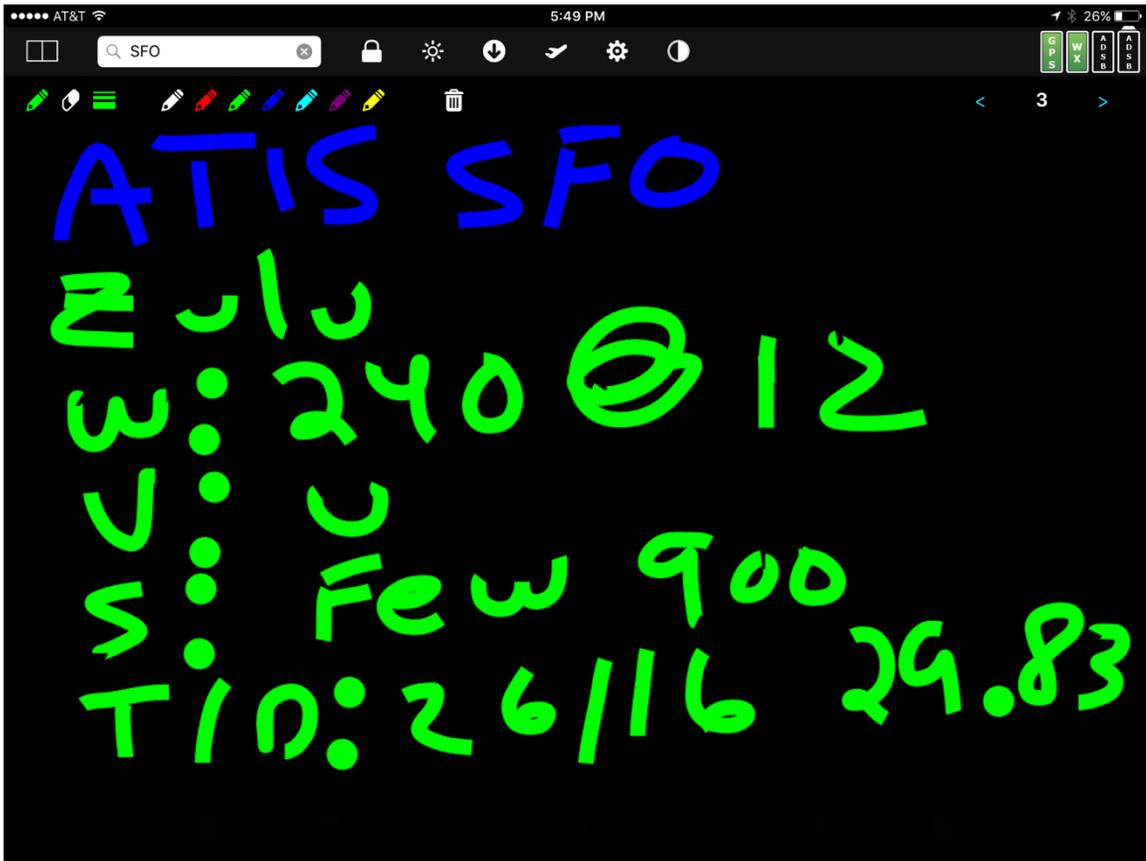
Using the **Flights** tab, you can select several flight recordings that were created for separate stages of a flight and merge them into a single recording. Tap the **Merge** button  and then select the recordings you want to combine by tapping the colored circle for each in the list of flights. Finally, tap the **Combine** button . The flights will be combined to form a single entry in the Flights tab list.

If you want to separate the recordings later, follow the same procedure but tap the **Split** button  to return to the original series of recordings.

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# Scratchpad

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Taking notes has never been so easy! Use the **Scratchpad** tab to quickly copy ATIS, clearances and any other notes you like. This works well with just a finger, there's no need to use a stylus.

Eight scratch pages are available (selected using the arrow buttons on the upper right of the window) and they aren't tied to any particular flight plan so you can use some for current flight notes, some for general notes, etc.

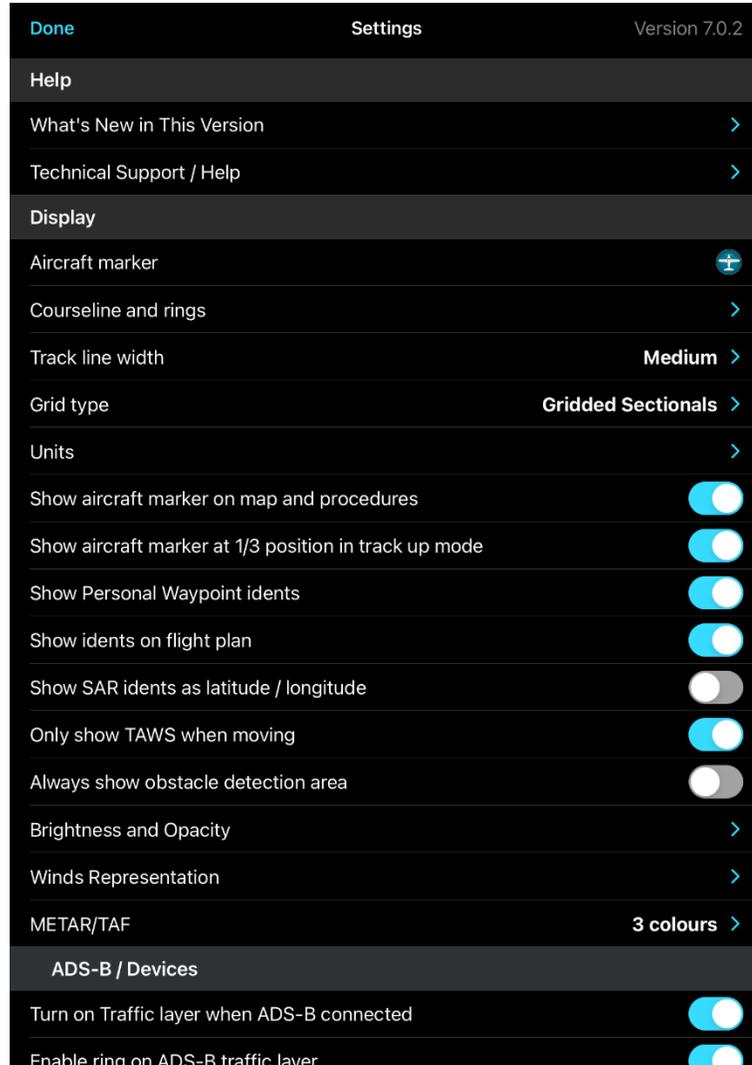
Select the **Pencil**  option to draw, the **Eraser**  option to selectively erase, the **Weight**  option to change the line width, and the **Trash Can**  option to clear the entire page. Draw using your choice of colors selected from the colored pencil options.

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# Settings

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There are many options and setting you can modify in the **Settings** page of FlyQ+ EFB. Tap  at the top of the main screen to open the **Settings** menu.



**Note:** The top right of the page shows the version number of the app (7.0.2 in this example).

## Help

### What's New in This Version

Gives a description of the features and fixes added in the current release

### Technical Support / Help

Lists links to YouTube videos, support documents, and other learning tools.

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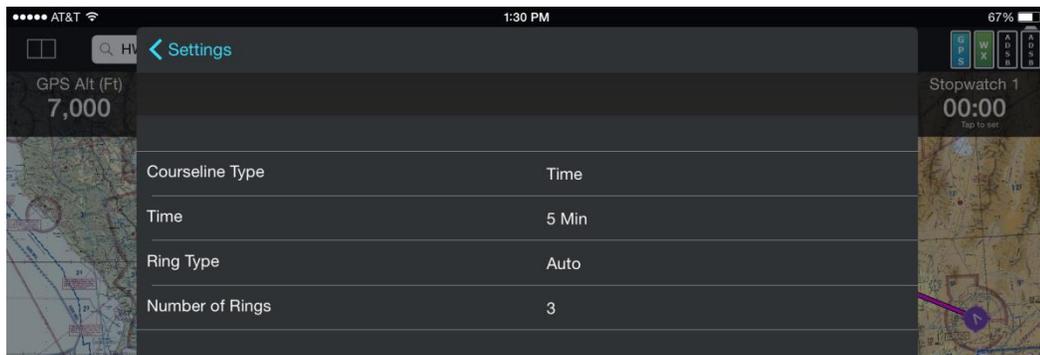
## Display

### Aircraft marker

FlyQ+ EFB has several different sizes, colors, and styles of aircraft markers. Tap to select the one you prefer.

### Courseline and rings

The **Extended Courseline** and **Rings** layers can be configured based on the distance from your aircraft or in terms of flight time based on your current speed. The **Courseline** or **Rings** layer must be turned on for this to have any effect on a map.



### Track line width

FlyQ+ EFB uses a green line to show your track during a flight and when a flight is played. Use this option to choose between *Small*, *Medium*, and *Large* line widths.

### Grid type

FlyQ+ EFB supports the standard *Gridded Sectionals* system used by CAP groups in the United States, the increasingly popular *Cell Grid* system, and the *GARS* system used primarily by law enforcement officials. The **Grid** layer must be turned on for this to have any effect on a map.

### Units

FlyQ+ EFB defaults to typical US pilot units of measurements in terms of speed, distance, altitude, and so on, such as *kts*, *NM*, and *ft*. Tap to change to other units.

### Show aircraft marker on map and procedures

In some situations, it may be against regulations to show your aircraft's position on maps and procedures. This switch disables these displays.

### Show aircraft marker at 1/3 position in track up mode

When enabled, this feature moves the aircraft marker from the center of the map to a position approximately a third of the map height from the bottom edge, so that more of the map is visible in the direction of travel.

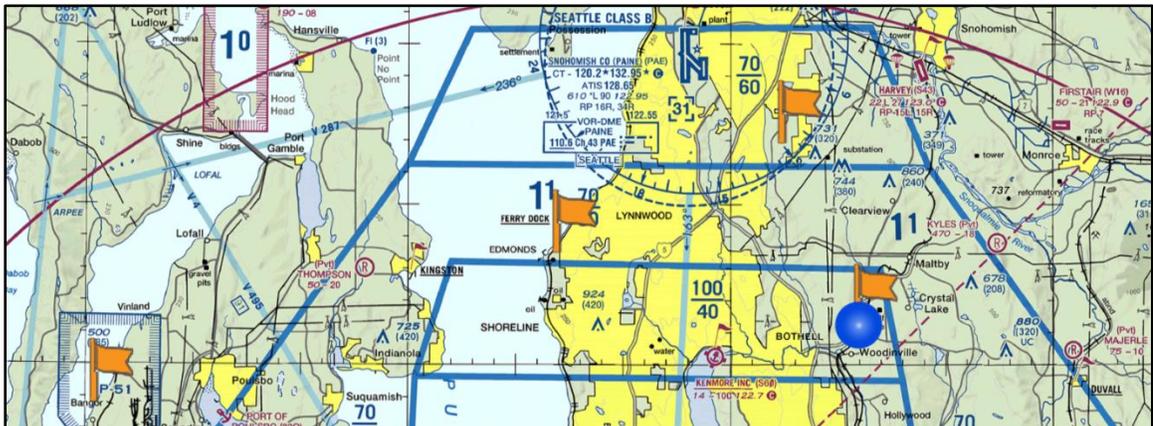
## Show Personal Waypoint idents

Personal Waypoints may be displayed with their **Idents** (and **Names**, if they have them) or simply as flag markers. The flag markers are ideal when there are many Personal Waypoints in very close proximity to each other. See page 108 for more information.

### With Idents



### Without Idents



## Show idents on flight plan

FlyQ+ EFB normally states the ident or name of each point along the flight plan line. In some cases, especially for Search and Rescue missions where these points may be very close together, it might be helpful to turn this feature off.

## Show SAR idents as latitude / longitude

When flying an SAR (Search and Rescue) pattern, it may be useful to display the latitude and longitude of each turn point rather than artificial ident names like SAR-1 and SAR-2.

## Only show TAWS when moving

The map's TAWS (Terrain Awareness and Warning System) layer uses yellow and red highlights to add shading to terrain based on its elevation relative to your altitude. This can be distracting when flight planning at your desk. When this option is enabled, there is no need to manually turn the TAWS layer off every time you plan a flight.

---

### Always show obstacle detection area

The **Obstacle** layer displays a red “pie wedge” detection area in front of the aircraft marker when it detects an obstacle within two minutes’ flight time from your predicted position. The “pie wedge” is not normally displayed otherwise. Enable this feature to show a green wedge when no threat is detected.

### Brightness and Opacity

This section controls the screen brightness and opacity of the Radar, Procedures, and other weather map layers. It also controls when ADS-B icing is shown.

### Winds Representation

Winds Aloft are depicted using either arrows (default) or barbs.

The Winds Aloft arrows point in the direction that the wind is moving not in the direction from which it comes. The number at the end is the expected winds aloft speed, in kts, at the altitude selected on the Altitude Slider. If you’re in-flight, that is generally your current GPS altitude. Winds aloft are reported in MSL.

Wind barbs use the standard symbology used by NOAA: circle = calm, small barb = add 5 kts, large barb = add 10 kts, and wedge-shaped barb = add 50 kts. In FlyQ+, they are also color-coded the same way as the wind arrows. The stick end of the barb is where the wind is going to; the barb end is the direction from which it comes.

### METAR/TAF colors

The METAR/TAF circles use your choice of three or four colors to depict the actual or expected weather conditions.

The default three color system uses the following colors:

- Green: VFR
- Yellow: MVFR
- Red: IFR, LIFR, or VLIFR

The four color system uses the standard NOAA/NWS colors:

- Green: VFR
- Blue: MVFR
- Red: IFR
- Magenta: LIFR or VLIFR

---

## ADS-B / Devices

FlyQ+ EFB connects to many different ADS-B systems including the Merlin, Stratux, Stratus 3, Dual XGPS 170 and 190, iLevel devices, L-3 Lynx, FreeFlight Systems, among others. See page 138 for more information about connecting to ADS-B devices.

The app also connects with many popular in-panel systems including the Dynon SkyView, Avidyne IFD, AFS 5000 series, and the Aspen Connected Panel. See the [External Devices and Applications](#) section on page 131 for details.

FlyQ+ EFB also automatically connects to GPS devices that follow Apple's protocol such as the Dual XGPS 150 and 160, the Garmin GLO, and the Bad Elf. These devices use Bluetooth and must be paired to the iPad/iPhone once before they can be used. The iPad/iPhone receives position updates from these devices and makes them available to any app that requests a position (like FlyQ+ EFB), provided that the user has allowed the app to access what's called **Location Services**. There is no specific switch in FlyQ+ EFB for these GPS devices as they're handled by the iPad/iPhone's operating system. If you're having a problem with GPS connectivity, please refer to the [Troubleshooting](#) section on page 35.

ADS-B receivers generally use Wi-Fi to communicate with the iPad or iPhone. FlyQ+ EFB automatically engages ADS-B processing when it detects a connection to a Wi-Fi network broadcast from a supported ADS-B receiver. The Dual XGPS 170 and 190 are also automatically handled by FlyQ+ EFB via Bluetooth rather than Wi-Fi.

### Turn on Traffic layer when ADS-B connected

When enabled, FlyQ+ EFB automatically turns on the traffic layer when connected to an ADS-B receiver or an in-panel system. Turn this off if you don't want FlyQ+ EFB to do this. This is particularly useful when connecting to a Dynon or Avidyne system that is not connected to a compatible ADS-B system.

### Enable ring on ADS-B traffic layer

FlyQ+ EFB normally shows a 15 NM ring around your position when the **Traffic** layer is on so you can judge the distance to targets; however, this is redundant if you're using the **Rings** layer so it can be switched off using this setting.

### Show tail numbers for ADS-B traffic

When enabled, FlyQ+ EFB displays the *Flight ID* (generally the tail number for GA aircraft or call sign for commercial aircraft) of any traffic for which such information is broadcast (aircraft with either ADS-B Out or a Mode S transponder). For other aircraft, no such data is in the ADS-B data stream so no tail number can be displayed.

### Show stationary traffic

This setting switches between showing only traffic that is moving (off) and including traffic that does not appear to be moving (on). Stationary traffic typically includes aircraft and trucks on the ground.

---

### Show traffic on tap

This setting causes information on a traffic target to be displayed when that target is tapped. You can choose to switch this setting off if your map is becoming too crowded with traffic targets to easily view other important information, such as METARs or TAFs.

### Traffic filter

The ADS-B **Traffic** map layer may show aircraft that are too far away to be any threat to you. You can turn on a filter that hides such traffic either by tapping a button on the map's 15 NM traffic ring or by turning this setting on. Traffic that is more than 15 NM horizontal distance away or more than 3,500 vertical feet above or below your altitude is hidden when the filter is on.

**Note:** Even when the traffic filter is off, FlyQ+ EFB hides traffic that is more than 75 NM away to reduce screen clutter and improve system performance and memory utilization.

### Tail number(s) to ignore

This setting lets you remove one or more specific aircraft, by tail number, from the ADS-B traffic display. It is typically used to filter out your own aircraft but it will not have any effect unless your aircraft broadcasts its tail number via an ADS-B Out transmitter or a Mode S transponder. Enter one or more tail numbers separated by commas or spaces.

### Buddy list (tail numbers)

One of the most common reasons pilots cite for wanting to see tail numbers is to identify their friends when flying together. With our unique **Buddy list**, FlyQ+ EFB highlights the tail numbers in this list in blue so they are easier to identify. Add one or more tail numbers separated by commas or spaces. Note that even when tail numbers are hidden from the display using other settings, those on the **Buddy list** are still shown.

### Ignore ADS-B data transmitted over WiFi

In some unusual situations, you may want FlyQ+ EFB to ignore ADS-B data packets coming from the Wi-Fi network it's listening to (for example, you want to force it to use a Bluetooth device). In general, this switch should be set to off except in rare situations.

### Levil AHRS / Dynon D2 AHRS

You need to manually enable these devices if you're using one of them. **You should *not* do this if you're using an iLevil ADS-B receiver with integrated AHRS, only when using the original, standalone Levil (not iLevil) AHRS unit.**

### Enable send to Aspen

Turn this on if you have an Aspen Connected Panel system so FlyQ+ EFB can transfer flight plans between it and the device.

---

## Flight Planning

The Flight Planning section provides links for adding, deleting, or modifying pilot and aircraft profiles as well as personal waypoints and flight tracks. Be sure to tap **Save** when you have finished editing the information in each screen. Tap **New** to add further profiles, waypoints, etc.

### Pilot profiles

Contains names and contact details for pilots. A **Leidos Username** is an optional part of each pilot profile and can be added and changed as needed.

**Note:** You do not need to add your Leidos Username to file a flight plan or obtain a legal weather briefing. However, it is required if you'd like to review those briefings and filings on the 1800WxBrief web site. You also need to go to <https://www.1800WxBrief.com> and use the **Account/Service Provider Authorization** section to enable FlyQ+ EFB to access your account.

### Aircraft profiles

Contains aircraft identification information, performance data, and onboard equipment.

### Personal waypoints

Contains names and locations of personal waypoints for use in your flights.

### Defaults

Virtually every setting shown in **Plans/New** can also be set as a default for when you create a flight plan via the **Search box** at the top of the app. This includes things like **Routing method, Optimize for best wind, Min/Max Altitude, Check for recent ATC routes**, etc. These are all described in the [Basic Flight Planning](#) section starting on page 103.

A few other options are available to generally help with flight planning. These include:  
*Default departure:* You can choose from your home airport, the nearest airport, or the most recent departure airport.

*Home airport:* Specify the identification code of your home airport.

*Translate Wx briefings:* Leidos weather briefings generally translate METARs and TAFs into plain English. You can view raw coded METARs and TAFs if you turn this setting off.

### VSR ft above airport

You can specify a target AGL (Above Ground Level) when using the VSR gauge to determine the correct descent profile to reach a landing airport. The VSR gauge uses this altitude, not the ground elevation of the airport, to determine the descent slope.

### VSR nm from airport

Specify how far from the center of the airport you want to be at the target altitude (above). This allows for standard pattern entry.

---

## Preferences

### Automatically adjust timeline

This setting causes the Timeline to update every quarter of an hour so that it follows the current local time. If this setting is switched off, then the most current data won't be automatically displayed.

### Allow the iPad (or iPhone) to sleep

Normally you won't want your iPad/iPhone to sleep while flying but it might sometimes be useful. When the iPad/iPhone is sleeping, ADS-B and GPS connections will usually be severed and it may take some time for them to reconnect. ADS-B data sent while the iPad/iPhone is sleeping are also generally lost so it may take many minutes for a complete weather picture to be restored.

### List helipads

Most pilots don't fly helicopters, yet there are thousands of helipads. FlyQ+ EFB normally hides helipads in lists like **Airports/Nearby** and when double-tapping the map for improved clarity for fixed-wing pilots. Turn this setting on to show helipads.

### List private airports

There are more than 10,000 private airports in the US that most pilots are not authorized to fly to. By default, FlyQ+ EFB removes these from **Search Box** lists for clarity. However, regardless of this setting, private airports may still be found from the **Search Box** by entering the exact identification code of the airport. For example, entering *Roche Harbor* in the **Search Box** will not find any private airports if this setting is off (just a public seaplane base), but entering *WA09* will find the private Roche Harbor land airport regardless of the setting.

Double-tapping the map will also find private airports regardless of this setting since they are generally shown in Sectionals.

### Disable map rotation other than North Up and Track Up

FlyQ+ EFB normally allows you to use two fingers to rotate the 2D map in any direction. Sometimes this makes it difficult to manipulate the map in turbulence, so pilots may prevent arbitrary rotation by turning this setting on. In this mode, the 2D map is always shown as North Up unless you're moving and Track Up is selected. **Note:** This setting has no effect on a 3D map.

### Print airport diagrams and procedures full page

The original FAA airport diagrams and approach procedures are approximately half the size of a standard A4 piece of paper, so they fit easily on a kneeboard. FlyQ+ EFB normally prints and emails these documents at the same half-page size. However, sometimes it's nice to see the procedures expanded to fill the entire page for better readability. Such documents are *printed* as full-page documents when this setting is on. **Note:** Airport diagrams and procedures are always *emailed* at their original size regardless of this setting.

---

### **Auto display airport diagram on landing**

FlyQ+ EFB normally shows a geo-referenced airport diagram when it believes you've just landed at an airport. For this to happen, your ground speed must drop below 50 kts for several seconds and the airport must have an official airport diagram from the appropriate regulatory agency. For example, in the US, the FAA provides diagrams for the 700 or so largest airports in the US (all class B, C, and D airports). Turn this setting off to disable the feature.

### **Disable app use of the Internet while moving**

FlyQ+ EFB behaves differently depending on whether it's connected to the Internet or it's offline. This can cause problems if you have a very weak Internet connection such as when flying low with a cellular-enabled iPad or an iPhone. In those cases, FlyQ+ EFB could be tricked into thinking it can use an Internet connection, but the weak signal causes very long delays or connection problems. When this setting is on (which is the default), FlyQ+ EFB will not attempt to use the Internet when you're moving even if the iPad or iPhone thinks it has an Internet connection. The iPad/iPhone's connection to the Internet is not affected in any way by this setting, just the app's use of it.

### **Also capture raw photo**

The Augmented Reality (AR) map has a photo shutter button. It always captures an image that includes airport marker overlays. When this setting is on, it also captures a "clean" image without these markers.

### **Preferred fuel type**

Several places in FlyQ+ EFB display fuel prices. To increase readability, the app generally shows just the prices associated with one type of fuel, which can be selected in this setting.

### **Autohide tab bars**

Controls when the tab bar at the bottom of the screen disappears. Options are *2 seconds*, *6 seconds*, and *Never*. The default is *6 seconds*.

### **Auto re-engage GPS Lock**

Automatically re-engages the GPS Lock (which recenters the map) after you stop manually moving or zooming the map for 30 seconds (only applies when in flight).

### **Autohide 2D controls**

Controls when the Map bar on a 2D map disappears. Options are *2 seconds*, *6 seconds*, and *Never*. The default is *Never*.

### **Autohide Procedure controls**

Controls when the control bar on a Procedure disappears. Options are *2 seconds*, *6 seconds*, and *Never*. The default is *6 seconds*.

---

### Autohide 3D controls

Controls when the Map bar on a 3D map disappears. Options are *2 seconds*, *6 seconds*, and *Never*. The default is *6 seconds*.

### Map modes

Tapping the  button on any map bar switches the display to the next map mode (2D, then 3D, and then AR). You may disable switching to AR (Augmented Reality) or 3D if you prefer.

### Automatically record flights

By default, FlyQ+ EFB automatically begins recording flights when your speed exceeds 45 kts for five seconds and stops when it goes below 20 kts for 30 minutes. You can disable the automatic recording but still record flights by using the manual **Start** and **Stop** buttons in the **Flight Recording** area of the [Status Indicators](#) (see page 23).

### Allow Slingshot access

FlyQ+ EFB can use Wi-Fi to send ChartData to many in-panel display systems such as the BendixKing xVue Touch and AeroVue Touch. This feature is disabled by default so enable it if you have a supported device.

### Altitude slider ceiling

The Altitude Slider on the right side of the map can be configured to match the service ceiling of your aircraft. By default, it is set to *24,000 ft* (FL240) but you can also set it to *16,000 ft* or *48,000 ft*.

### Use enhanced briefing

Select this option to use a weather briefing format containing graphics. If you leave this option unselected, a simplified text-based weather briefing will be shown.

### Show simplified radar colors

FlyQ+ EFB normally displays radar using a wide range of colors. Enable this setting to use a simplified color scheme that is easier for those with color blindness to see. **Note:** This only applies to the standard **Radar** choice in **Layers; Radar (Anim)** and **Radar (Hi-Res)** always use the full color spectrum.

### Use High-Resolution Turb / Icing

When selected, FlyQ+ EFB will combine high-resolution turbulence and icing for the US with lower-resolution data for other regions.

### Always use Low-Res Radar

Selecting this option instructs FlyQ+ EFB to use a single common global pseudo-radar source rather than merge high-resolution US radar with the pseudo-radar source available elsewhere.

---

## IR Satellite Options

Choose to display only US high-resolution satellite imagery, only global IR imagery, or merge the two together.

## Icing Options

Select **Auto** to use the best available icing source for your region, only US icing sources, or only global icing sources. The global sources are updated less frequently and are of lower resolution than US sources.

## Combine VFR Charts (Sectionals) and TACs

Use this option to use map layers with Sectionals and Terminal Area Charts combined (see page 43 for details of the separate layers). **Note:** Changes to this setting do not take effect until new Sectionals are downloaded, which happens automatically when new maps are available (every 56 days) OR if you tap **Delete all sectional data** from the ChartData Manager screen, and then tap **Update**.

## Alerts

### Visual airspace alerts

Display a pop-up message when approaching or inside controlled airspace.

### Audible airspace alerts

Annunciate when approaching or inside controlled airspace.

### Show download alert when ChartData Updates are available

Every 28 days, Seattle Avionics releases new ChartData™. FlyQ+ EFB shows an alert when new ChartData is available unless this setting is off.

### Show Preflight Checklist alert on flight plan load and creation

FlyQ+ EFB helps ensure that you have the data you need for a safe flight by reminding you to use the Preflight Checklist when you create a new flight plan or load an existing one. You can disable this reminder here.

### GPS Anomaly Alerts

Enable or disable alert messages when GPS anomalies are detected. Logging of anomalies continues even if alerts are disabled.

### NaviGuard 10 mins warning

Highlight the relevant gauges in the Gauge Bar as a visible reminder to take another input fix after 10 minutes when NaviGuard is active.

---

## FlyQ+ EFB Login

This section shows you the email and password associated with your account. You can also validate your login, retrieve a lost password, or change your email or password. To log in as a different user, tap **Logout** and log back in as the different user.

---

**Tip:** The **Change Email or Password** feature lets you change the email we have associated with your account to a different email, typically because you began using a different email address. If you simply want to log in as a different user, do not tap **Change Email or Password** but tap **Logout** then log in as the new user.

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The final section of the Settings menu gives you access to Seattle Avionics's privacy policy and information about the app. There is also an option to delete your account.

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# Support for Pilots

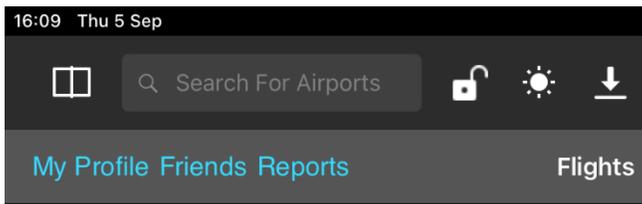
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## The Floq Network

Every pilot we know has friends who fly. And every pilot loves to talk about flights, planes, and our flying experiences. This is where the unique social network feature of FlyQ+ EFB comes in. We call it *Floq*. Of course, you can choose not to use any of these features and keep all of your data private so no one but you can see any of it, but we think you'll find Floq both useful and fun.

### Privacy

**Important:** Your personal information such as address, email, phone number, filed flight plans, and other account information is *never* disclosed to anyone except you, no matter which Privacy level (below) you select.



Select a **Social Privacy Level** from the **My Profile** link at the top of the **Flights** tab or from our web site using the **My Account** link at the top of every web page (then choose the **Other Account Info** category). The three levels are:

- **Private:** No information is shared with anyone but you.
- **Semi-Private** (the default): Your name, home airport, and number of flights is available to everyone so other pilots can ask to "follow" you. No one sees your flight tracks, logbook data, or other flight details unless you specifically allow them to follow you.

- **Public:** Your flight tracks, home airport, number of flights, and other flight details are available to everyone.

You can also choose to make any specific flight private even if you normally share your flights by using the **Semi-Private** or **Public** levels.

## Friends

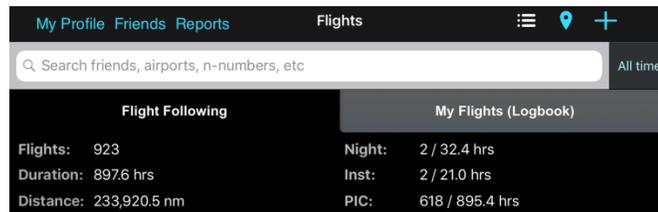
For a social network to be useful, you need to be linked to other pilots. We refer to this as "following." The flights made by pilots you follow show up on your iPad or iPhone, and your flights appear on the devices of those who follow you. By default, pilots have to request that you allow them to see your flights (**Semi-Private** mode).

The **Flights** tab has two tabs at the top: **Flight Following** and **My Flights (logbook)**. When **Flight Following** is selected, you see your flights and the flights of all the pilots you follow. When **My Flights (logbook)** is selected, you see just your flights.

---

**Tip:** You can easily tell which tab is selected because it is the same color (black) as the stats below it so they blend together. In the example below, **Flight Following** is the selected tab.

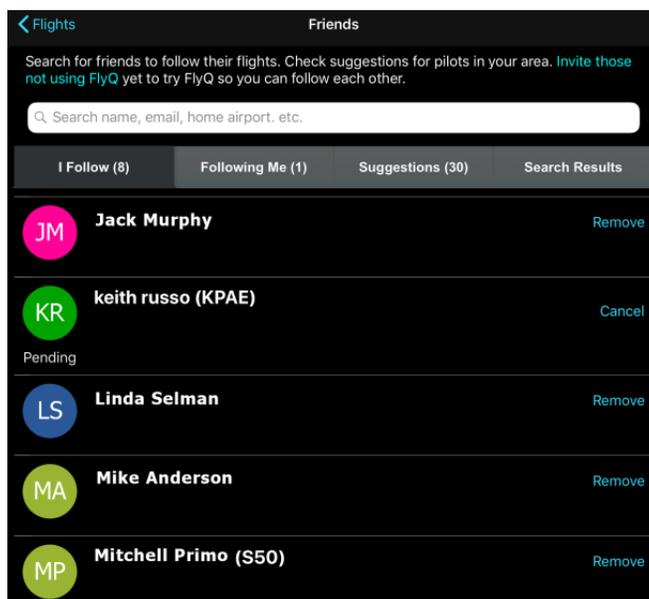
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Tap the blue **Friends** link at the top of the **Flights** tab to find new people to follow or manage the pilots to which you're linked.

The **Friends** page has several tabs and a search box. The first two tabs, **I Follow** and **Following Me** show which pilots you follow and which follow you, respectively. Tap **Remove** to remove any pilot you're following or anyone following you.

In the example below, *Keith Russo* is noted as **Pending** because he has not yet accepted my request to follow him. Therefore, he has a **Cancel** button instead of **Remove**. **Cancel** revokes my request to follow him.

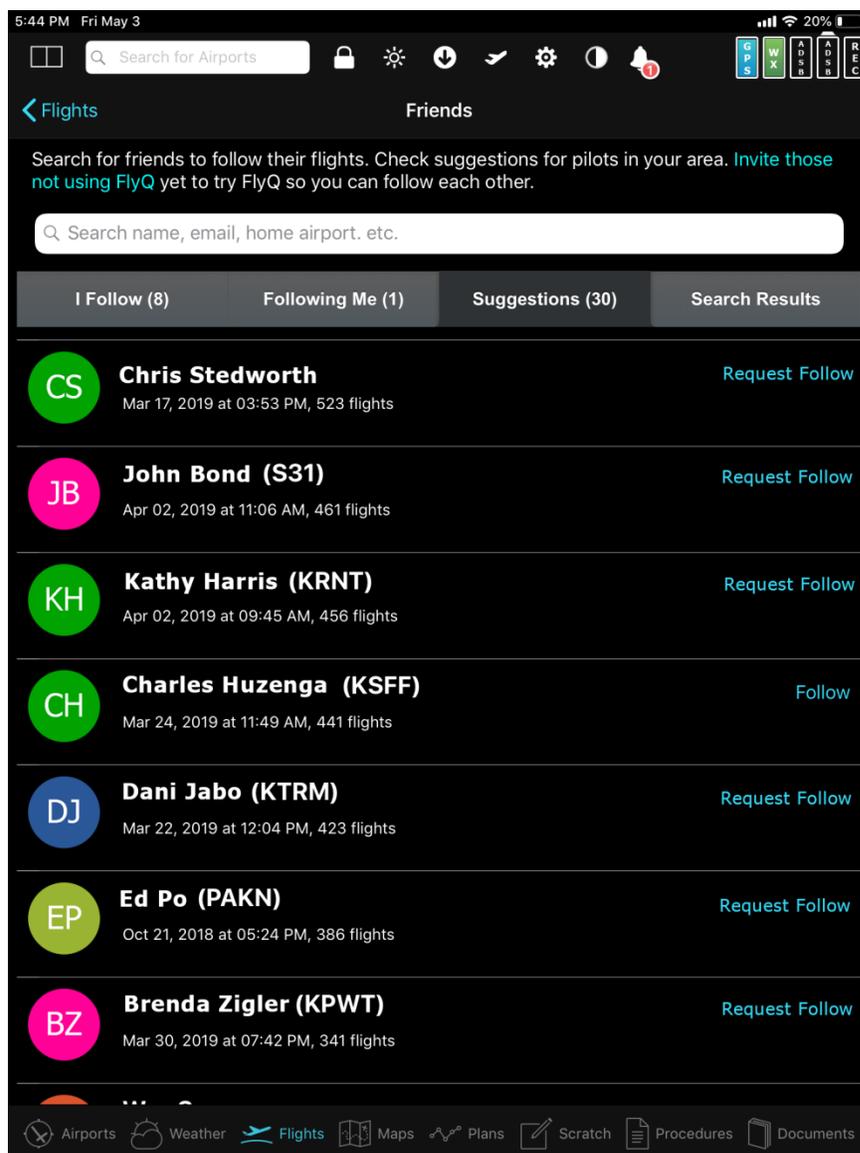


Use the search box at the top to enter a name, email address, or home airport ident of a pilot you'd like to follow. The results appear in the **Search Results** tab.

Use the **Suggestions** tab (shown below) to see other pilots that the system thinks may interest you because they fly out of your home airport or home state.

**Note:** If you set your **Social Privacy Level** to *Private*, you never appear in **Search** or **Suggestions** but you can still follow other people.

**Note:** The **Suggestions** and **Search** tabs show a pilot's home airport, last flight, and number of flights to help you decide whether you want to follow them or not. The **I Follow** and **Following Me** tabs show just the home airport to make the system faster.



Tap a pilot's name or profile icon to learn more about him.

Tap **Follow** or **Request Follow** to follow any pilot. When you do, they'll be notified with an email and a red tag on the Notifications  button at the top of the app. **Request Follow** means that the pilot wants to select which pilots see his or her flights. Once the person has accepted your request, you'll start to see their flights. If you simply see **Follow**, it means that the person has chosen to allow anyone to follow him/her so you're immediately linked when you tap **Follow**.

Once you're following other pilots, the **I Follow** tab lists them. Use the **Remove** button to stop following their flights. If you see **Pending**, it means you've asked to follow them but they have not yet accepted the request.

The **Following Me** tab shows which pilots you've allowed to follow your flights. Tap **Remove** to remove any of your followers.

---

## Likes and Comments

For each flight, you'll see buttons to **Like** and add a **Comment**.

Tap the **Like**  button to show your approval of another pilot's flight or, if this is your flight, see who liked your flight. (You cannot Like your own flight.)

Tap the **Comment**  button to add a comment to your flight or someone else's flight.

## Sharing with Other Social Networks

It's easy to share flight data and images with other social networks using the **Action**  button next to each flight. That gives you several options, including **Share GPX** and **Share Image**.

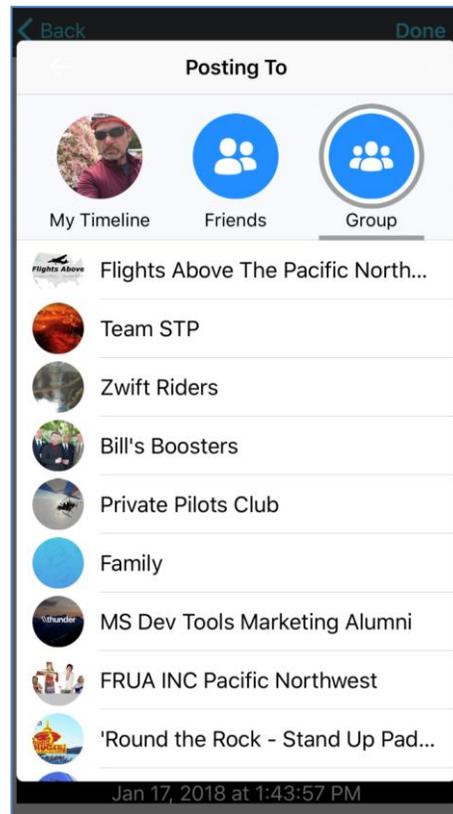
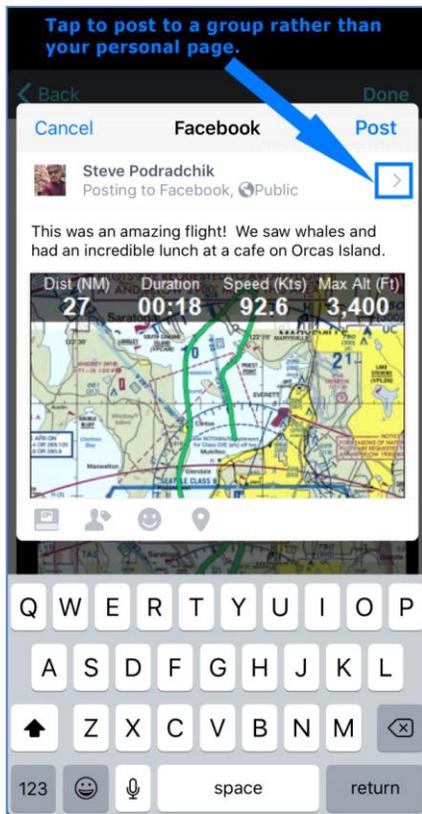
**Share GPX** can be used to email the digital track to someone or sent to another app, such as Cloud Ahoy, for additional analysis. GPX is a data format designed for location track exchange between computer systems; it's not a data file a human would want to read.

**Share Image** generates a visual track of your flight, like the one shown in the **Flights** list, with some added statistics. It can be printed or sent to someone via text message, email, or any social media app you have installed on your iPad or iPhone such as Facebook, Twitter, or Instagram.

---

**Tip:** In Facebook, you have the option to add text describing the flight and, if you're a member of one or more Facebook groups (like *Private Pilot's Club*, *Flights Above The Pacific Northwest*, etc.), you can post to that group or to your own page.

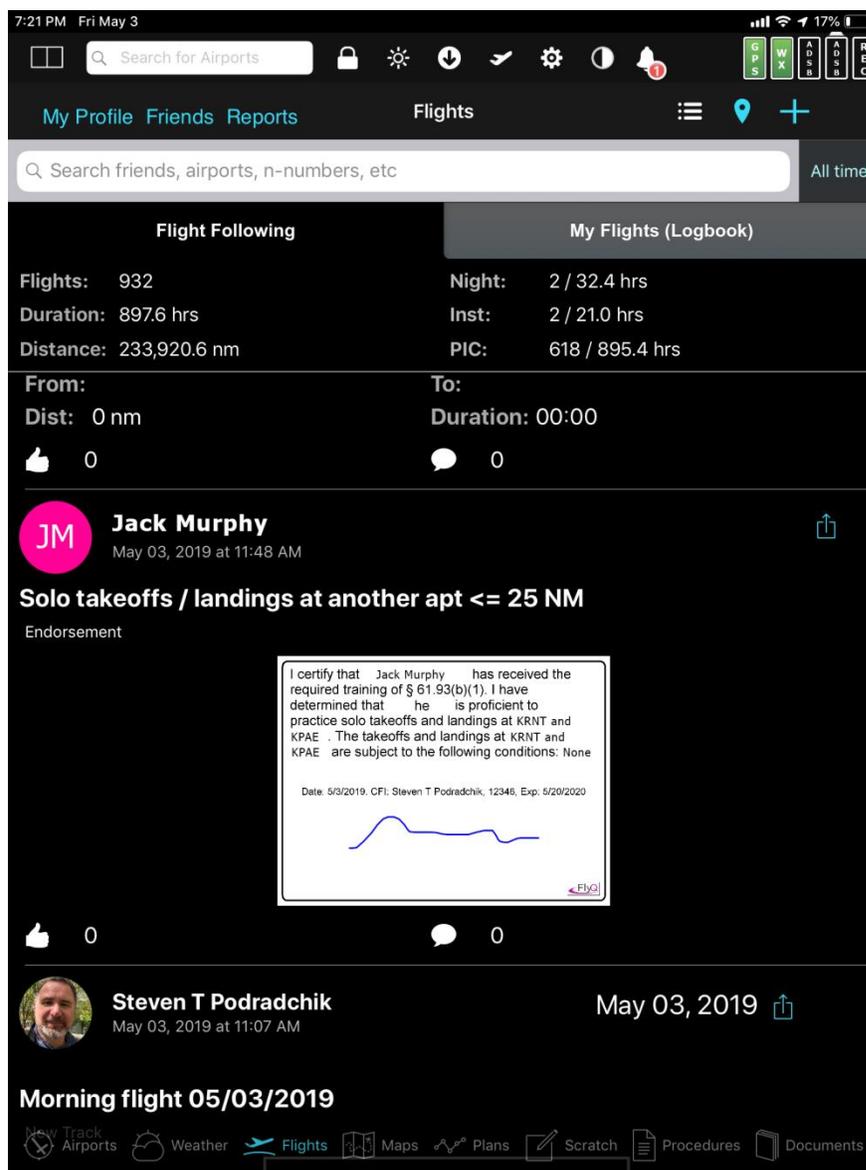
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## CFI and Student Pilot Endorsements

Seattle Avionics takes flight instruction very seriously and adds features useful to Certified Flight Instructors (CFIs) and their students. We also offer very special pricing for CFIs and Private Pilot students (see our website for more details).

The merging of a logbook and a social network is especially useful for CFIs and their students. It makes it easy for a CFI to follow the flying of all of his or her students and, with the addition of the new **Endorsement** feature, also makes it easy for a CFI to endorse students. Endorsements can be granted remotely because of the Floq Network feature. For this feature to work, both the CFI and the student must use FlyQ+ EFB.



Endorsements, like flights, are listed in the **Flight Following** tab. Therefore, pilots who follow someone receiving an endorsement will see the endorsement. As with flights, those pilots can show their approval with a Like and add congratulatory comments.

## Following a Student Pilot

A CFI can follow all the flights each student takes merely by using the Friends feature and entering the email address of each student in the Search box. The student must accept the request.

## Granting an Endorsement Remotely

When a CFI deems that a student has earned an endorsement, the CFI simply taps the **Action**  button associated with any flight the student has made and selects **Send Endorsement**. Do this by selecting the **Flights** tab in FlyQ+ EFB, selecting **Flight**

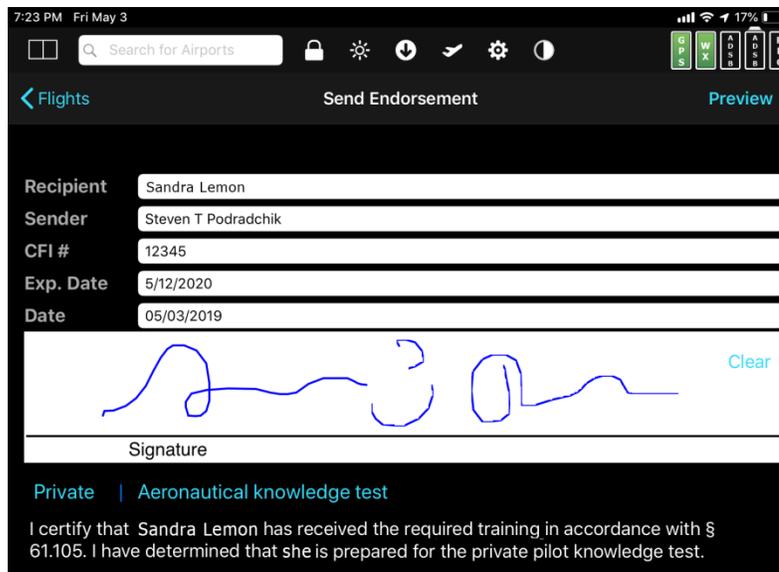
**Following**, and use the **Search** area to type the name of the student if such a flight is not already visible. The student will see a message tag on their device's Notification  button.

## Granting an Endorsement from a Student's iPad/iPhone

A CFI can also take a student's iPad or iPhone and grant an endorsement using that device. To do this, the CFI uses the **Flights** tab and taps the **Action**  button next to any flight that the student has made. Select **Receive Endorsement**. Note that this method also works if the CFI is not using FlyQ+ EFB.

## Endorsements Screen

The **Endorsements** screen is essentially the same whether sending or receiving an endorsement. In all cases, the CFI completes the information required and signs the document using his or her finger. From the FAA's perspective, such electronic endorsements are exactly like paper ones.



7:23 PM Fri May 3

Search for Airports

Flights Send Endorsement Preview

Recipient Sandra Lemon

Sender Steven T Podradchik

CFI # 12345

Exp. Date 5/12/2020

Date 05/03/2019

Signature [Clear](#)

[Private](#) | [Aeronautical knowledge test](#)

I certify that Sandra Lemon has received the required training in accordance with § 61.105. I have determined that she is prepared for the private pilot knowledge test.

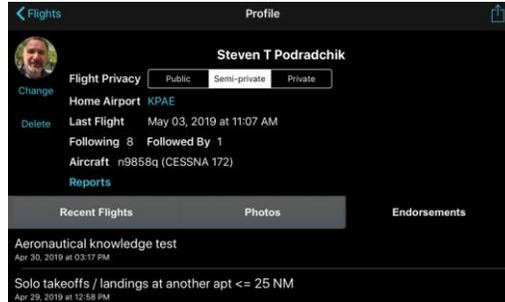
Select the specific type of endorsement using the blue links towards the bottom of the screen. The first section is a list of endorsement categories (*Private Pilot, Commercial, Instrument, etc.*) and the second section is the specific endorsement.

The system automatically fills in the name of the student but, depending on the specific endorsement, there may have some other fields that need to be completed. You will be warned if any of these fields are left incomplete.

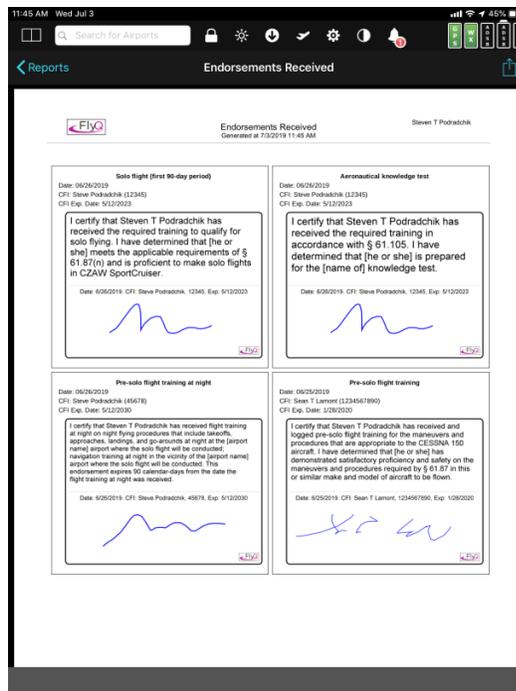
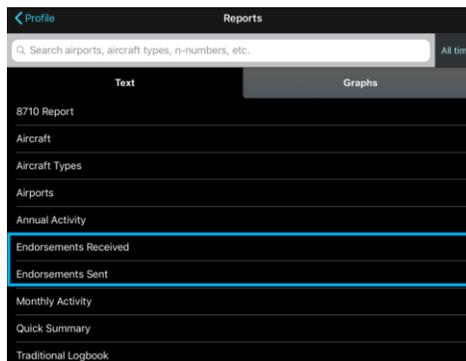
Tap **Preview** to review the endorsement. Tap **Create** if it looks correct or go back to correct it.

## Profile and Reports

Pilots who have received endorsements see them in their **My Flights** section as well as in the **Endorsements** tab of their **Profile** screen. They can also generate an **Endorsements Received** report.



CFIs who have granted endorsements can see them by generating an **Endorsements Sent** report.



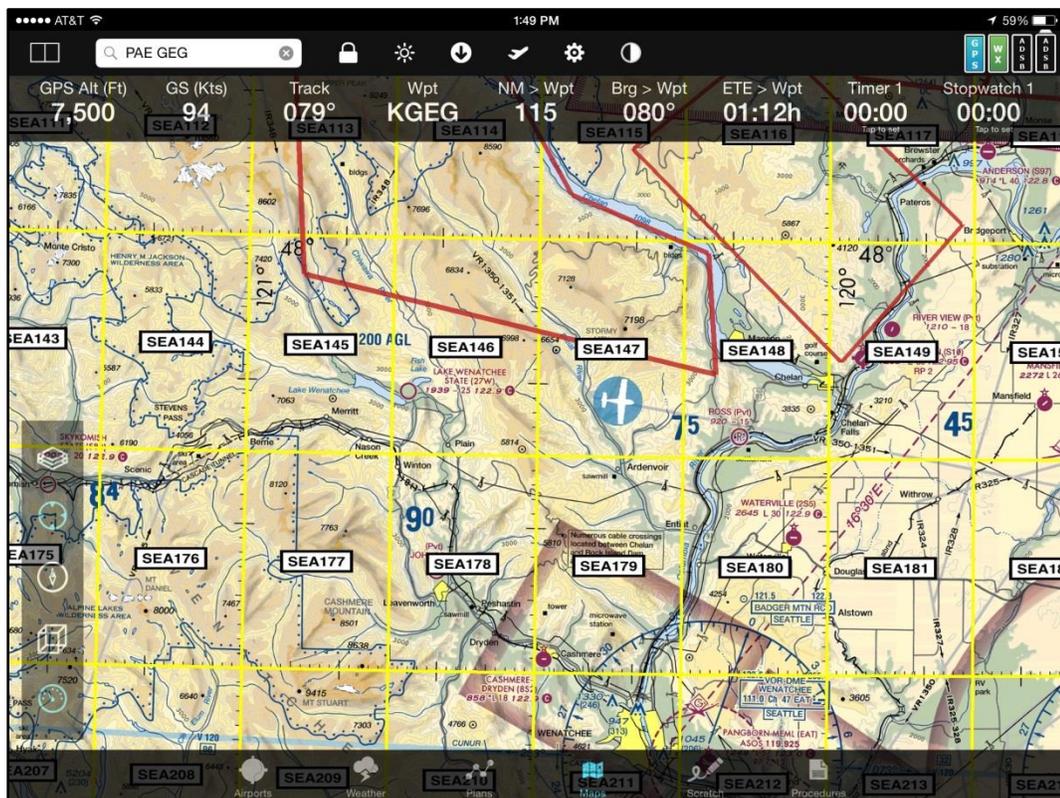
# Search and Rescue (CAP)

## Introduction

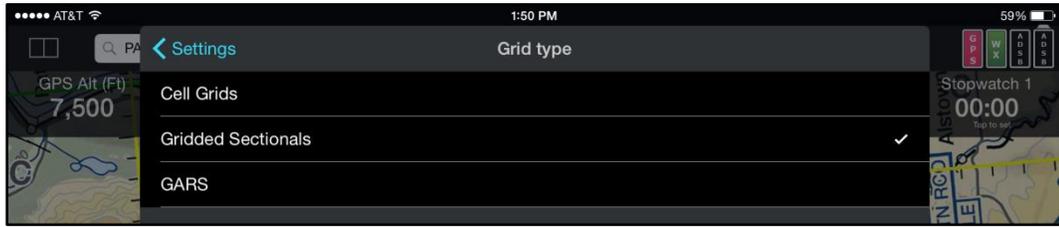
If you fly with the US Civil Air Patrol (CAP), the US Coast Guard Office of Search and Rescue (CG-SAR), or other search and rescue organizations, you'll appreciate the many grid systems and automatic pattern planning features of FlyQ+ EFB.

For additional information about the CAP grid system, please see: <http://www.cap-es.net/capgrids/cap%20grid%20systems.htm>

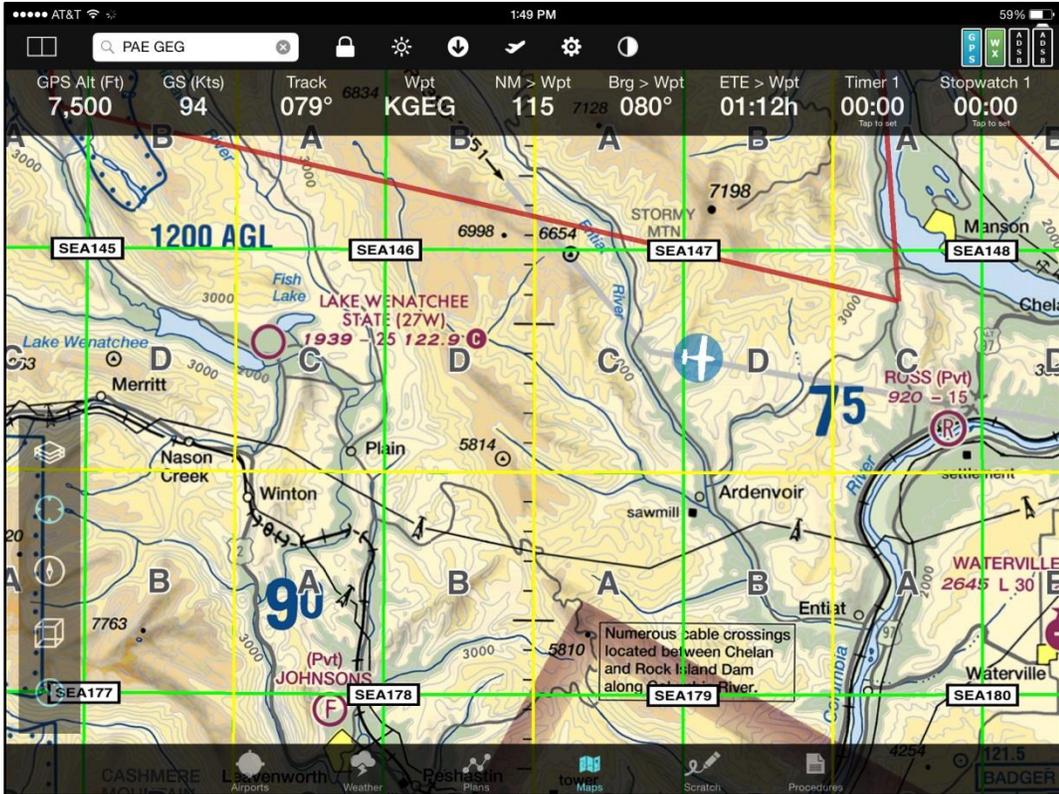
## Grids



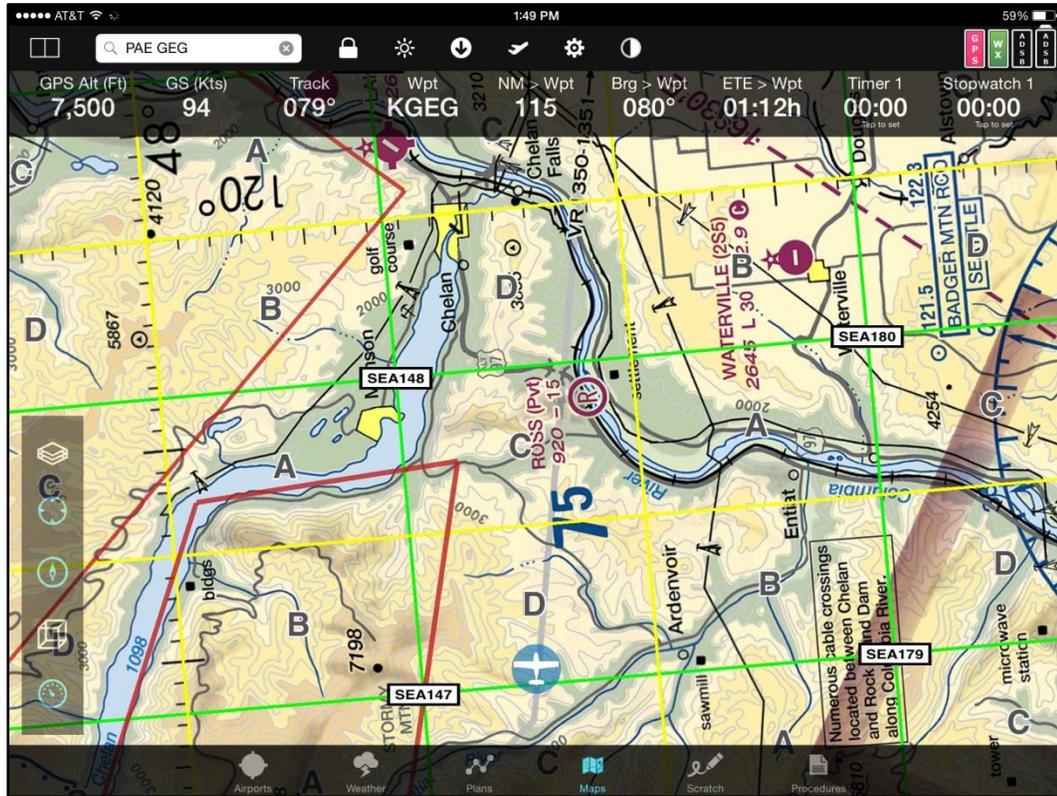
FlyQ+ EFB has three grid styles that you can overlay on any map by selecting the **Grid** option on the **Layers** pop-up. They are the standard CAP grid (*Gridded Sectionals*), the newer *Cell Grid*, and *GARS* for global use. You can select which style you prefer in Settings (page 164).



You see more and more detail (such as quadrant letters) as you zoom in. The line colors change to indicate zoom level.



The labels remain the right way up even when the map is rotated for ease of reading.



## Patterns

FlyQ+ EFB includes automatic route creation for nine different CAP and Photographic search patterns. The most common are the *Parallel Track* and *Creeping Line* but FlyQ+ EFB has many more. The *Grid Search* is a special case of the *Parallel Track* for searching strictly inside a grid cell.

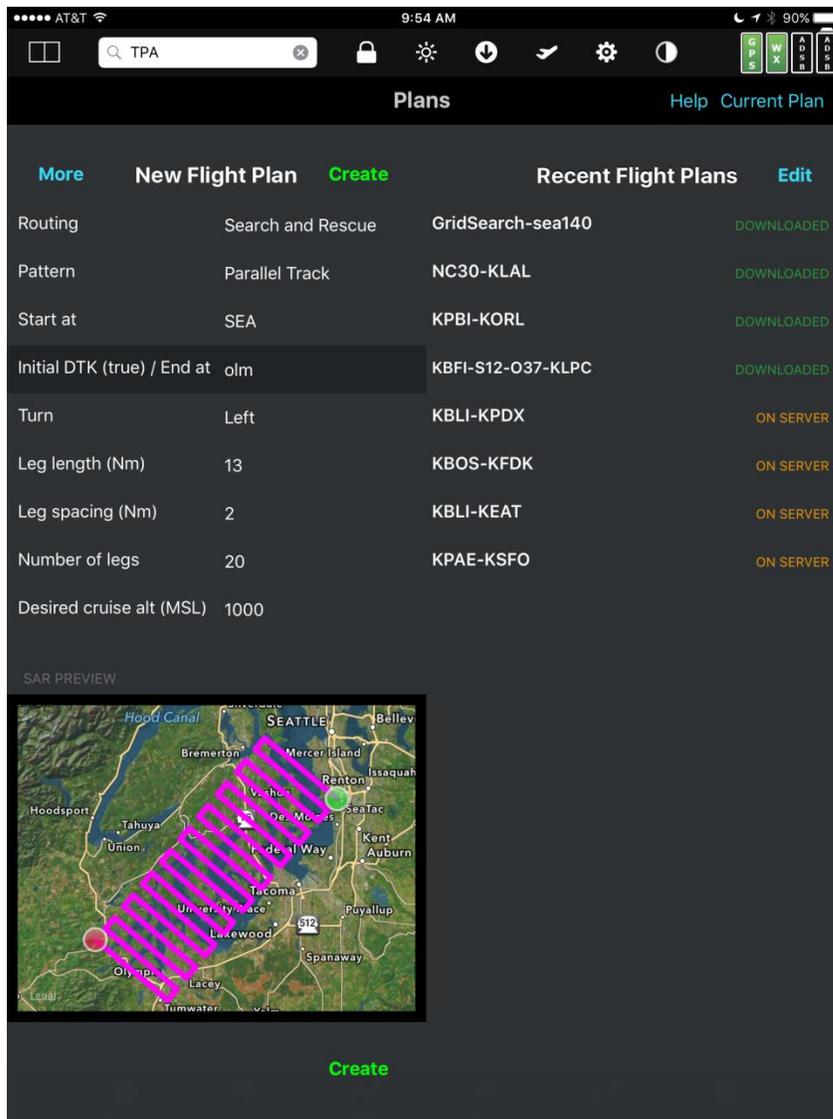
In all cases, the steps for creating the flight plan are the same:

1. Tap the **Plans** tab at the bottom of the screen and go to the **New Plan** area.
2. Select *Search and Rescue* as the **Routing** method, then choose the specific **Pattern** you want to use.  
You'll see a **Preview** area towards the bottom of the screen that reflects the search parameters as you enter them. Tap the **Preview** at any time to see this full-screen.  
In the **Preview** area, a green dot represents the start of the route while a red represents the end.
3. Tap **Create** (either at the top or bottom of the **New Plan** area) to create a flight plan with the specified route.  
The plan shown in the **Preview** is not actually created until **Create** is tapped.

## Parallel Track

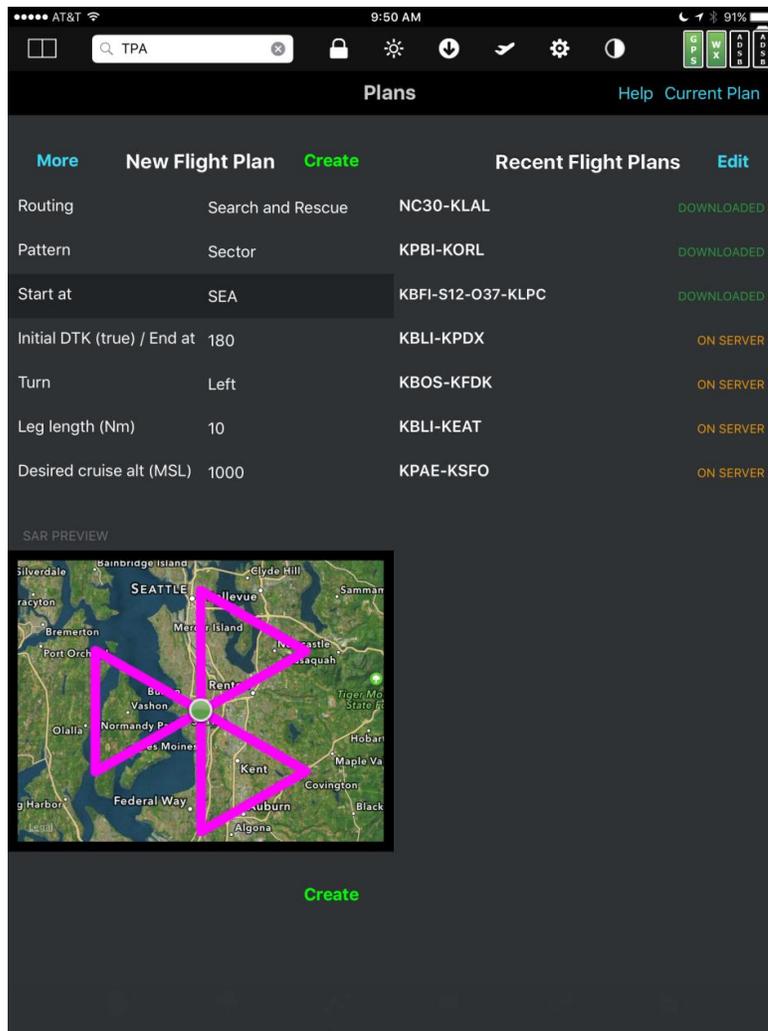
**Note:** *Creeping Line* and *Parallel Track* are almost identical. The difference is that the first leg of a *Creeping Line* pattern is half the length of all other legs so the pattern effectively sweeps left and right from the starting point. A *Parallel Track*, by contrast, has all legs of equal length so search begins at the starting point at one end of the corridor rather than at the center.

The *Grid Search* pattern is preferred and offers more flexibility if the parallel search is entirely inside a grid cell.



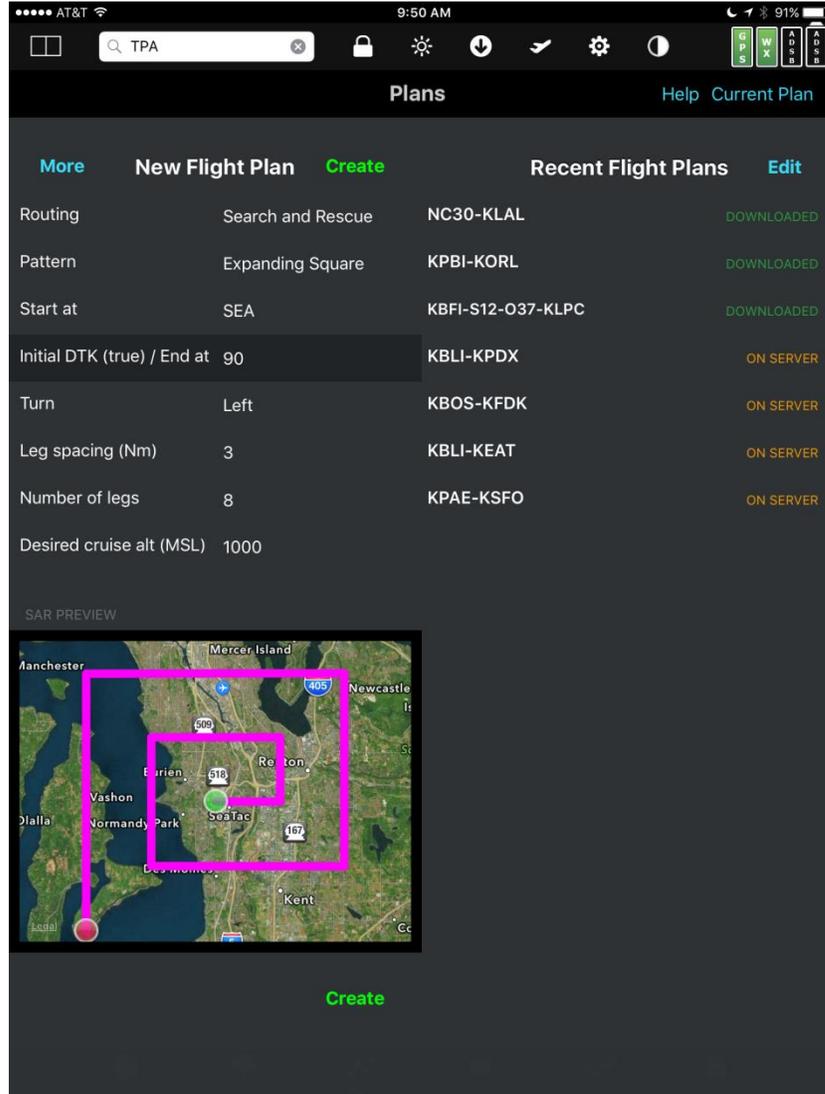
Parameter	Function/Values
Start at	A standard aviation named point (airport, navaid, etc.), latitude/longitude, grid reference, navaid with relative distance and bearing, or navaid/navaid intersection. See the <a href="#">Waypoint Entry</a> section on page 107 for details about how to enter these points.
Initial DTK (true) / End at	Enter either a true course (0-360 degrees) or a named aviation point. If a named aviation point is used, FlyQ+ EFB automatically calculates the proper DTK and also the correct number of legs to reach that point (up to a maximum of 100 points).
Turn	Either <i>Right</i> or <i>Left</i> turns.
Leg length (Nm)	The distance of each “long” leg.
Leg spacing (Nm)	The distance of each turn or “short” leg. This is the width between each long leg.
Number of legs	The number of “long” legs. Ignored if an aviation point is entered in the <b>Initial DTK (true) / End at</b> parameter rather than a numerical heading.
Desired cruise alt (MSL)	

## Sector



Parameter	Function/Values
Start at	A standard aviation named point (airport, navaid, etc.), latitude/longitude, grid reference, navaid with relative distance and bearing, or navaid/navaid intersection. See the <a href="#">Waypoint Entry</a> section on page 107 for details about how to enter these points.
Initial DTK (true) / End at	Enter either a true course (0-360 degrees) or a named aviation point. If a named aviation point is used, FlyQ+ EFB automatically calculates the proper DTK.
Turn	Either <i>Right</i> or <i>Left</i> turns
Leg length (Nm)	The distance of each “long” leg.
Desired cruise alt (MSL)	

## Expanding Square

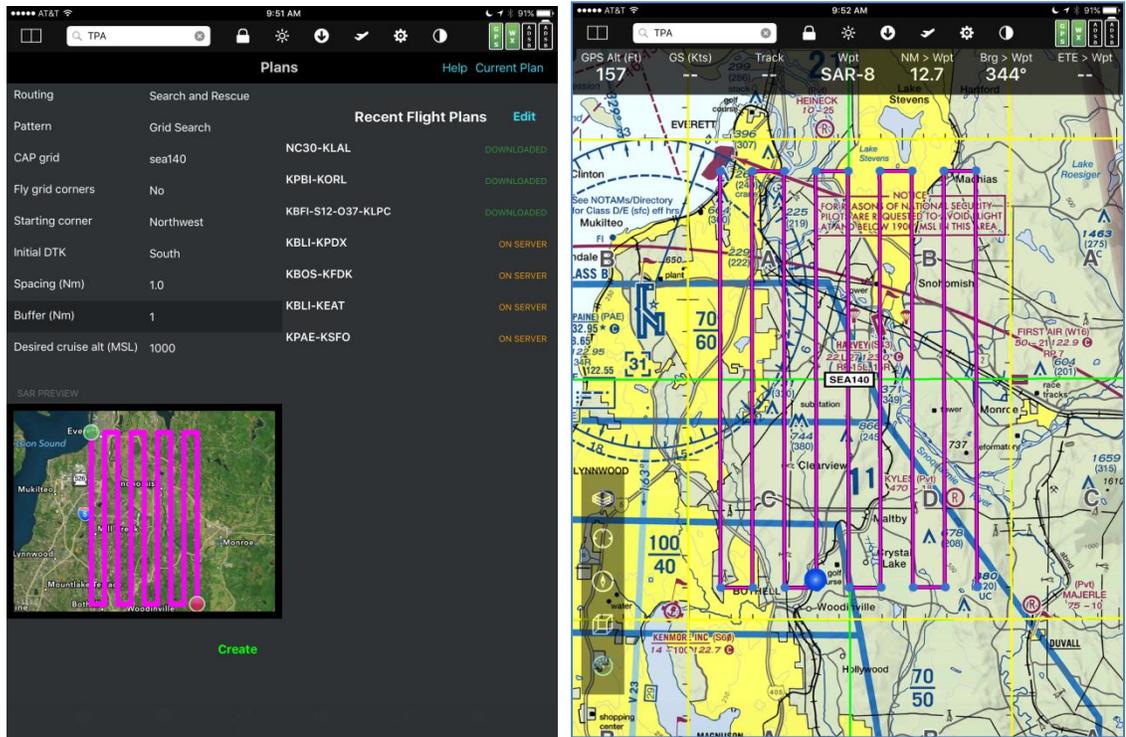


Parameter	Function/Values
Start at	A standard aviation named point (airport, navaid, etc.), latitude/longitude, grid reference, navaid with relative distance and bearing, or navaid/navaid intersection. See the <a href="#">Waypoint Entry</a> section on page 107 for details about how to enter these points.
Initial DTK (true) / End at	Enter either a true course (0-360 degrees) or a named aviation point. If a named aviation point is used, FlyQ+ EFB automatically calculates the proper DTK and also the correct number of legs

	to reach that point (up to a maximum of 100 points).
Turn	Either <i>Right</i> or <i>Left</i> turns.
Leg spacing (Nm)	The distance of each turn or “short” leg. This is the width between each long leg.
Number of legs	The number of “long” legs. Ignored if an aviation point is entered in the <b>Initial DTK (true) / End at</b> parameter rather than a numerical heading.
Desired cruise alt (MSL)	

## Grid Search

**Note:** The *Grid Search* pattern is a specialized version of a parallel search that has been optimized for searches within one grid cell.

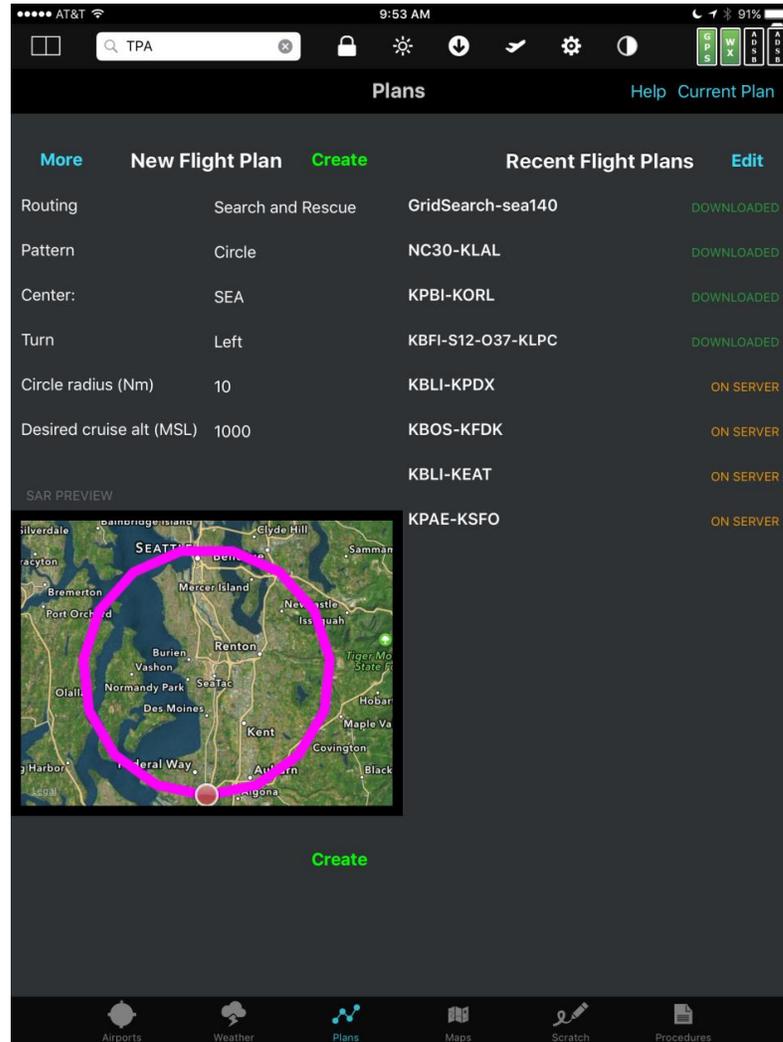


Parameter	Function/Values
CAP grid	Unlike other search patterns, this search is optimized for grid cells so only accepts grid references. The grid may be a CAP (Gridded Sectional), Cell, or GARS grid. You may use as many levels as you like (e.g. <i>SEA140</i> , <i>SEA140C</i> , etc.). In this one case, grid suffixes ( <i>NW</i> , <i>NE</i> , <i>SE</i> , and <i>SW</i> ) are ignored because the pattern has a <b>Starting corner</b> parameter that does the same thing.
Fly grid corners	When selected, FlyQ+ EFB generates a series of four points that represent the four corners of the grid. These points are added before the rest of the pattern and make it easy to begin with a quick overflight before starting the pattern.
Starting corner	Selects which grid corner is the start of the route ( <i>Northwest</i> , <i>Northeast</i> , <i>Southeast</i> , or <i>Southwest</i> ).

<b>Initial DTK</b>	Choice of <i>North, South, East, or West</i> . Note that the choice of <b>Starting corner</b> limits which Initial DTK selections are valid. <b>Preview</b> displays <i>Invalid</i> if you select an <b>Initial DTK</b> that is incompatible with the <b>Starting corner</b> (in order to stay within the grid).
<b>Leg length (Nm)</b>	The distance of each “long” leg.
<b>Spacing (Nm)</b>	The distance of each turn or “short” leg. This is the width between each long leg. This value implicitly specifies the number of legs as the number of legs is the maximum number of legs that will fit within the grid cell with the specified <b>Spacing</b> .
<b>Buffer (Nm)</b>	For safety or other reasons, you may specify a buffer (or border, if you prefer) within each grid cell. When non-zero, the pattern is constrained to fit inside the grid cell after subtracting the size of the border from each of the four sides.
<b>Desired cruise alt (MSL)</b>	

## Circle

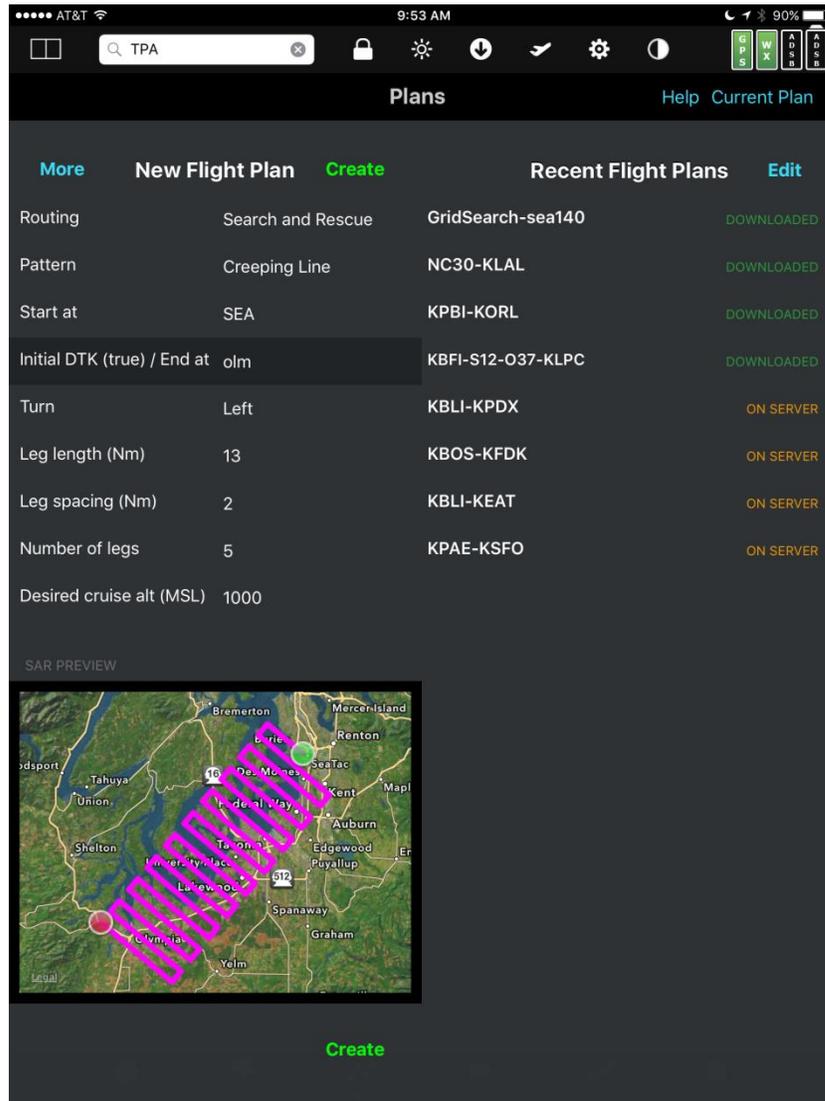
**Note:** There are two circular patterns, *Circle* and *Circle (Photographic)*. For normal CAP flights, *Circle* should generally be used. *Circle (Photographic)* is designed for missions that require a camera to be mounted at a 45-degree angle so the radius of the circle is locked to the desired AGL.



Parameter	Function/Values
Center	A standard aviation named point (airport, navaid, etc.), latitude/longitude, grid reference, navaid with relative distance and bearing, or navaid/navaid intersection. See the <a href="#">Waypoint Entry</a> section on page 107 for details about how to enter these points.
Turn	Either <i>Right</i> or <i>Left</i> turns.
Circle radius (Nm)	
Desired cruise alt (MSL)	

## Creeping Line

**Note:** *Creeping Line* and *Parallel Track* patterns are almost identical. The difference is that the first leg of a *Creeping Line* pattern is half the length of all other legs, so the pattern effectively sweeps left and right from the starting point. A *Parallel Track*, by contrast, has all legs of equal length so search begins at the starting point at one end of the corridor rather than at the center.

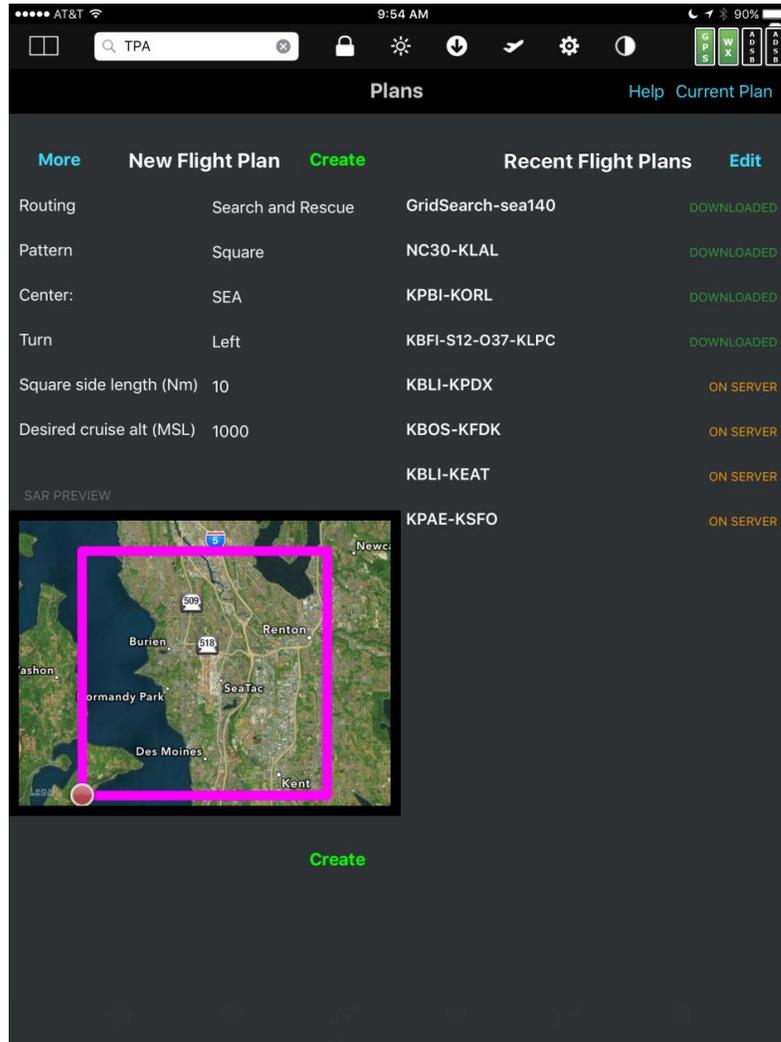


Parameter	Function/Values
Start at	A standard aviation named point (airport, navaid, etc.), latitude/longitude, grid reference, navaid with relative distance and bearing, or navaid/navaid intersection. See the <a href="#">Waypoint Entry</a> section on page 107 for details about how to enter these points.

<b>Initial DTK (true) / End at</b>	Enter either a true course (0-360 degrees) or a named aviation point. If a named aviation point is used, FlyQ+ EFB automatically calculates the proper DTK and also the correct number of legs to reach that point (up to a maximum of 100 points).
<b>Turn</b>	Either <i>Right</i> or <i>Left</i> turns.
<b>Leg length (Nm)</b>	The distance of each “long” leg.
<b>Leg spacing (Nm)</b>	The distance of each turn or “short” leg. This is the width between each long leg.
<b>Number of legs</b>	The number of “long” legs. Ignored if an aviation point is entered in the <b>Initial DTK (true) / End at</b> parameter rather than a numerical heading.
<b>Desired cruise alt (MSL)</b>	

## Square

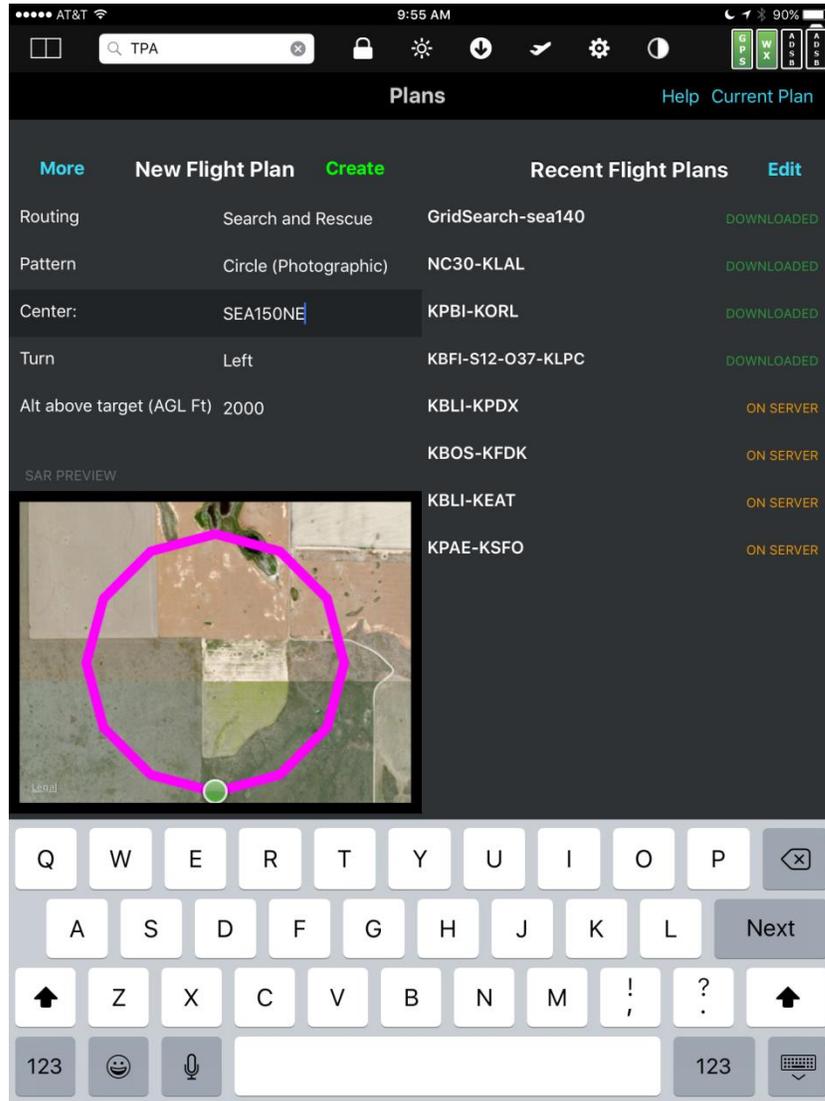
**Note:** There are two square patterns, *Square* and *Square (Photographic)*. For normal CAP flights, *Square* should generally be used. *Square (Photographic)* is designed for missions that require a camera to be mounted at a 45-degree angle so the square side length is locked to the desired AGL.



Parameter	Function/Values
Center	A standard aviation named point (airport, navaid, etc.), latitude/longitude, grid reference, navaid with relative distance and bearing, or navaid/navaid intersection. See the <a href="#">Waypoint Entry</a> section on page 107 for details about how to enter these points.
Turn	Either <i>Right</i> or <i>Left</i> turns.
Square side length (Nm)	The distance of each leg.
Desired cruise alt (MSL)	

## Circle (Photographic)

**Note:** There are two circular patterns, *Circle* and *Circle (Photographic)*. For normal CAP flights, *Circle* should generally be used. *Circle (Photographic)* is designed for missions that require a camera to be mounted at a 45-degree angle so the radius of the circle is locked to the desired AGL.



Parameter	Function/Values
Center	A standard aviation named point (airport, navaid, etc.), latitude/longitude, grid reference, navaid with relative distance and bearing, or navaid/navaid intersection. See the <a href="#">Waypoint Entry</a> section on page 107 for details about how to enter these points.
Turn	Either <i>Right</i> or <i>Left</i> turns.

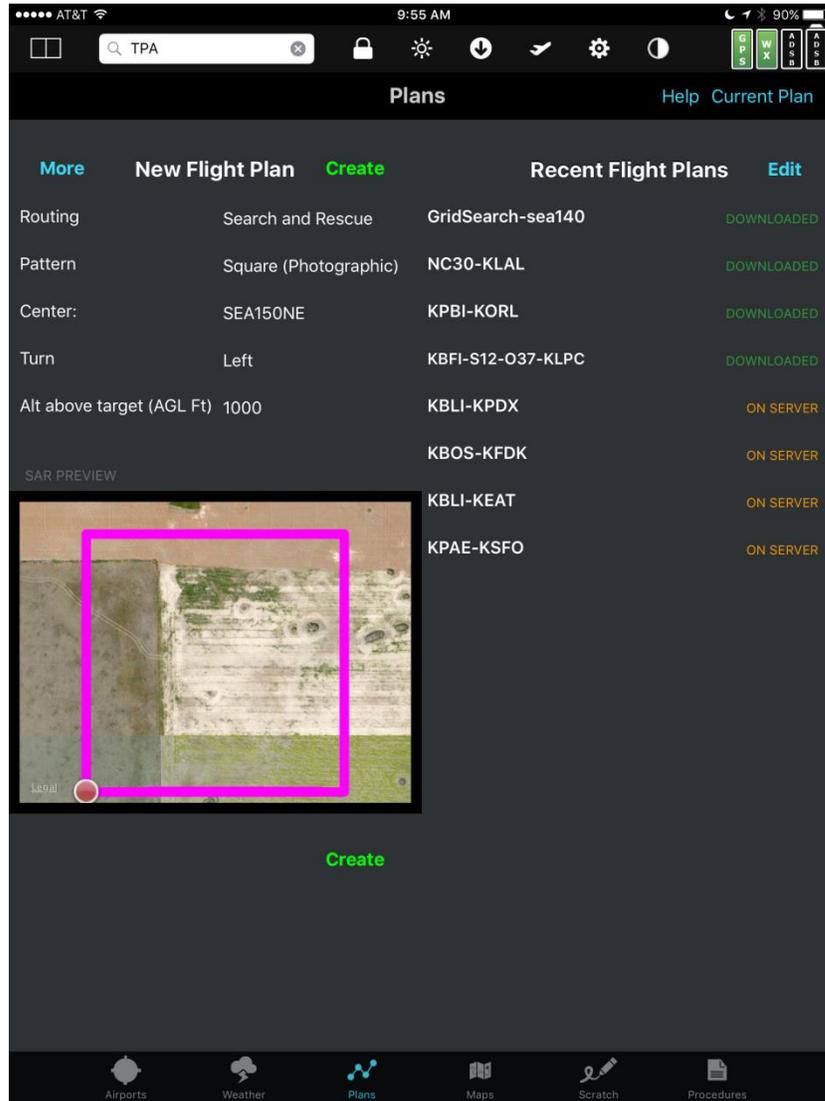


<p><b>Alt above target (AGL Ft)</b></p>	<p>The altitude above the surface elevation at the <b>Center</b> point. This value determines both the flying altitude (in MSL) and the radius of the circle. For example, <b>Alt above target</b> of 2000 means the radius of the search is also 2000 ft. This allows a camera to be mounted at a standard 45-degree angle and remain at a constant angle to the target.</p> <p><b>Important!</b> No attempt is made to calculate a safe altitude for all points around the circle as the MSL is calculated strictly as the elevation of the target plus the desired AGL. Pilots should be extremely cautious to remain at a safe AGL at all points during the flight, especially in places of varied elevation or obstacles. An initial safety pass over the area is strongly recommended.</p>
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## Square (Photographic)

**Note:** There are two square patterns, *Square* and *Square (Photographic)*. For normal CAP flights, *Square* should generally be used. *Square (Photographic)* is designed for missions that require a camera to be mounted at a 45-degree angle so the square side length is locked to the desired AGL.



Parameter	Function/Values
Center	A standard aviation named point (airport, navaid, etc.), latitude/longitude, grid reference, navaid with relative distance and bearing, or navaid/navaid intersection. See the <a href="#">Waypoint Entry</a> section on page 107 for details about how to enter these points.
Turn	Either <i>Right</i> or <i>Left</i> turns.

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### Alt above target (AGL Ft)

The altitude above the surface elevation at the **Center** point. This value determines both the flying altitude (in MSL) and the length of each side of the square. For example, **Alt above target** of 2000 means the leg length is also 2000 ft.

**Important!** No attempt is made to calculate a safe altitude for all points around the square as the MSL is calculated strictly as the elevation of the target plus the desired AGL. Pilots should be extremely cautious to remain at a safe AGL at all points during the flight, especially in places of varied elevation or obstacles. An initial safety pass over the area is strongly recommended.

## Tips and Tricks

### Adding Takeoff and Landing Legs to a SAR Pattern

The current version of FlyQ+ EFB does not allow you to append or otherwise add an SAR pattern to an existing flight plan. However, it's quite easy to create a flight plan that begins at any airport, flies to the beginning of the pattern, flies the pattern, and then returns home:

1. Create the SAR (Search and Rescue) pattern as described in the previous sections.
2. In the **Search** box at the top of the app, enter the ident or name of any takeoff point such as your home airport.
3. Tap the **+FP** button in the search results.
4. Tap the first row in the pop-up that shows the SAR plan.  
This adds your takeoff point before the first point in the SAR plan.
5. Go back up to the **Search** box and enter your landing ident.
6. Tap the **+FP** button in the search results.
7. Tap **Add to end** in the pop-up that shows the SAR plan.  
This adds your landing point to the end of the plan.

### Flying the Pattern More Slowly Than a Normal Flight

FlyQ+ EFB uses your default aircraft profile to calculate performance unless otherwise told. An SAR pattern is usually flown more slowly than a normal flight. To fly the SAR pattern more slowly:

- 
1. Create a new aircraft profile with different TAS and fuel values by going to **Settings** , tapping **Aircraft profiles**, and tapping **New**.
  2. When creating the SAR pattern, tap **More** at the upper left of the **New Flight Plan** area. That shows several additional data entry fields, including a choice of **Aircraft**.
  3. Select the slower profile you just created.
  4. Continue creating the SAR pattern in the usual way.