

# STRATUS

STRATUS 2i PORTABLE RECEIVER

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PILOT'S GUIDE

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To view the current Pilot's Guide, go to [www.appareo.com/stratus](http://www.appareo.com/stratus)

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## QUICK START INSTRUCTIONS

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For installation instructions, please reference the Stratus 2i Installation Guide. Please note that the Stratus 2i is battery-less and requires aircraft power for operation.

**NOTE:** When Stratus 2i is connected to the power cable, it will automatically power on when aircraft power is applied.

1. Connect your iPhone®, iPad®, or iPod touch® to the Stratus 2i Wi-Fi network from the iOS device's **Settings** menu.
2. Open ForeFlight Mobile and confirm connection to receiver.

**NOTE:** Because ADS-B signals are broadcast by ground towers, the receiver will not receive weather and traffic information while it is on the ground.

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## ABOUT STRATUS 2i

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Stratus 2i (hereinafter referred to as “receiver”) is a portable receiver that works in conjunction with the ForeFlight Mobile app. It provides pilots with subscription-free in-flight weather and traffic and is a source of accurate Wide Area Augmentation System (WAAS) GPS position. It receives Automatic Dependent Surveillance-Broadcast (ADS-B) weather information (FIS-B), traffic information (TIS-B), and other related data and broadcast it to ForeFlight Mobile via a Wi-Fi network.

It is also an attitude heading reference system (AHRS), flight data recorder, and pressure altitude sensor.

This receiver is classified as a Portable Electronic Device (PED) and complements the instrument panel in your aircraft. If there is a discrepancy between a receiver and the instrument panel, use the readings on your instrument panel.

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## ABOUT FOREFLIGHT

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Stratus receivers work exclusively with the ForeFlight Mobile app to display the information collected by a receiver. For more information about any of the features available through ForeFlight Mobile, refer to the ForeFlight Mobile Pilot’s Guide, which is available within the app or at the ForeFlight Mobile website.

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## PRODUCT REGISTRATION

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Your receiver is automatically registered with the retailer at the time of purchase—you do not need to perform additional steps to activate the warranty. The Stratus Portable Receiver Limited Warranty is valid one year after the receiver is shipped from the retailer and is non-transferable.

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## STRATUS REPLAY

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To extend your iPad battery life, you may allow the iPad to sleep or switch to an app other than ForeFlight Mobile. Once you return to ForeFlight Mobile, the receiver will automatically send any missed ADS-B weather information to the app.

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## TURNING RECEIVER ON OR OFF

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If the receiver is connected to the power cable, it will automatically power on when aircraft power is applied. All LED indicators will briefly illuminate red and then green as the receiver powers on and auto-calibrates. If the receiver is moved after being turned on, it must be re-calibrated in ForeFlight Mobile.

## LED INDICATOR STATUS

Label	Color	Condition Indicated
GPS signal	Green	3-D lock
	Yellow (flashing)	No lock, searching for signal.
	Off	Receiver is powered off.
Power (Indicated by power symbol)	Green (pulsing)	Receiver is powered on and operational.
	Off	No external power is being received; receiver is powered off.
ADS-B signal	Green	ADS-B FIS-B signal has been received from <i>multiple</i> towers in the past three seconds.
	Yellow	ADS-B FIS-B signal has been received from <i>one</i> tower in the past three seconds.
	Off	ADS-B FIS-B signal has not been received in the past three seconds.

Label	Color	Condition Indicated
All indicators	Briefly red and then green	Receiver is powering on and calibrating.
	Red (flashing)	Built-in-test failure. Contact support for assistance.
	Yellow (flashing)	Installing firmware update.
	Yellow (solid)	Applying firmware update.
	Green for two seconds	Firmware update complete.
	Off for five seconds, then flashing green	Power button is depressed. After 30 seconds, factory reset process will begin.
	Green to yellow to green	Factory reset process is complete.

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## CONNECTING TO FOREFLIGHT MOBILE

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Your iOS device must be connected to the Stratus 2i Wi-Fi network, not Bluetooth, for the receiver to communicate with ForeFlight Mobile. Multiple iOS devices in the cockpit may be connected to the receiver simultaneously.

**NOTE:** The Stratus 2i Wi-Fi network provides a wireless connection between the receiver and ForeFlight Mobile. It does not provide an internet connection.

1. Tap the **Settings** icon on your iOS device's home screen.
2. Tap **Wi-Fi**.
3. Ensure that Wi-Fi is enabled. Tap the Stratus 2i wireless network, displayed under "Choose a Network..." to connect. Your SSID (network name) is on the label on the back of your receiver.

Once your iOS device is connected to the Stratus 2i wireless network, a checkmark will appear next to the network name.

4. Confirm that the receiver is connected in the Stratus Status page of ForeFlight Mobile. See the Stratus Status Page section on page 9 for more information on this feature.

**NOTE:** Receiver Wi-Fi network security can be configured in ForeFlight Mobile.



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## ABOUT AHRS

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ForeFlight Mobile users can use the receiver for backup AHRS (attitude, heading, and reference system) to enhance situational awareness. For the most accurate AHRS information, ensure the receiver is mounted parallel with the centerline of the aircraft running front to back, and the LEDs on the receiver should face opposite of the direction of flight. Refer to the graphic on the top of the receiver for the correct mounting alignment with the aircraft.

**NOTE:** AHRS and Synthetic Vision data provided by the receiver and ForeFlight Mobile should be used for supplemental purposes only.

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## CALIBRATION

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The receiver is automatically calibrated to the position in which it is mounted a few seconds after being powered on. If your aircraft isn't straight and level, the alignment can be manually adjusted in ForeFlight Mobile. Manual adjustments can be saved in the Stratus Status page.

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## ABOUT FLIGHT DATA RECORDING

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The receiver has a flight data recording feature that will record position, speed, attitude, and barometric altitude data during each flight. Approximately 20 hours of data can be stored in the receiver's built-in-memory. After your flight, you can export your Track Log data to an iOS device in ForeFlight by tapping **Track Logs** in the "More" view, and then tapping the cloud icon (the iOS device must be connected to the internet). Flights can be displayed in a supported app or shared on many social media platforms. The flight data recorder is enabled by default.

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## PRESSURE ALTITUDE SENSOR

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The receiver is equipped with a pressure altitude sensor that sends uncorrected barometric pressure information to ForeFlight Mobile. This information is viewable while using the app and is also recorded in the flight data log.

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## SYNTHETIC VISION

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The receiver supplies attitude information to ForeFlight Mobile's Synthetic Vision, which allows you to view a 3-D picture of terrain and obstacles in the area in which you are flying. Synthetic Vision can be enabled in ForeFlight Mobile.

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## STRATUS STATUS PAGE

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Once the receiver is connected to ForeFlight Mobile, you can view information about your receiver and adjust settings via the Stratus Status page in the app. To access the Stratus Status page in ForeFlight Mobile, tap **Devices** while in the “More” tab. Then tap the **Stratus Connected** box.

The Stratus Status page displays general information about the receiver, such as its current power state, serial number, and firmware version. The Stratus Status page in ForeFlight Mobile also displays the number of ADS-B towers the receiver is receiving data from, and allows you to adjust the LED brightness and turn on power saving mode.

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## LED AUTO-DIMMING

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The receiver contains an ambient light sensor that will brighten or dim the LEDs in response to the ambient light level. You can also manually change the LED brightness settings using the LED Brightness slider on the ForeFlight Mobile Stratus Status page.

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## ABOUT ADS-B WEATHER

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The receiver receives ADS-B weather data and relays this information to ForeFlight Mobile. The table below lists the weather information that is available from ADS-B broadcasts. See the FAA's Aeronautical Information Manual, tables 7-1-1 and 7-1-2 for more information.

<b>Product</b>	<b>Range</b>	<b>Broadcast intervals</b>
National Radar Update (CONUS)	Contiguous US	15 minutes
Local Radar Update	250 NM	2.5 minutes (updated every 5 minutes)
AIRMETs	100 NM airport surface 500 NM en route/terminal	5 minutes
SIGMETs and Convective SIGMETs	100 NM airport surface 500 NM en route/terminal	5 minutes
METARs	100 NM airport surface 500 NM en route/terminal	5 minutes
NOTAM(D) and FDC NOTAM (including TFR)	100 NM	10 minutes
PIREPs	500 NM en route/terminal	10 minutes
Special Use Airspace	500 NM en route/terminal	10 minutes
TAF	100 NM airport surface 500 NM en route/terminal	10 minutes
Wind/temperature aloft	1000 NM	10 minutes

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## ABOUT ADS-B TRAFFIC

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The receiver receives 978 MHz and 1090 MHz traffic information from ADS-B ground towers and ADS-B transmitter-equipped (ADS-B Out) aircraft and relays it to ForeFlight Mobile.

If air traffic data is detected by the receiver, it will display in ForeFlight Mobile relative to your aircraft.

### **Air-to-Air Traffic**

Please be aware that the receiver will only receive air-to-air broadcasts from other aircraft if they are ADS-B Out equipped and within range of the receiver. Air traffic that is not equipped with a UAT ADS-B Out or Mode S Extended Squitter transmitter will not be detected by the receiver air-to-air.

### **Rebroadcast Traffic**

Using its network of ADS-B ground stations, the FAA can rebroadcast a custom traffic report to ADS-B Out equipped aircraft that are within a 15 nautical mile radius and within 3500 feet in altitude of the ADS-B Out aircraft. If your aircraft is not ADS-B Out equipped, it will not receive rebroadcast traffic unless it is within range of an ADS-B Out equipped aircraft that triggers it. If your aircraft is ADS-B Out equipped but is not in contact with an ADS-B ground station, it will not receive rebroadcast traffic.

The FAA can rebroadcast traffic information about aircraft equipped with the following transponder types: Mode C, Mode S, Mode ES, and UAT. Mode A transponders and primary radar targets detected by the FAA are not included in rebroadcasted traffic reports.

Since not all aircraft are ADS-B Out equipped and not all traffic is rebroadcast, the use of the receiver does not preclude pilots from having to perform “see-and-avoid” procedures.

**NOTE:** The receiver is not likely to receive weather or rebroadcast traffic information on the ground because ADS-B information is broadcast by ground towers. The altitude at which the receiver begins to receive weather and rebroadcast traffic information will vary depending on the distance to nearby towers and terrain and other obstacles that may be between the receiver and a tower.

For more information and graphics about how ADS-B traffic works, refer to ADS-B Traffic 101 at [ipadpilotnews.com/traffic](http://ipadpilotnews.com/traffic).

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## UPDATING FIRMWARE

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Occasionally, receiver firmware updates will be released. These updates may activate new capabilities or address known issues. If a firmware update is available, it will be sent to your iOS device as an update to ForeFlight Mobile in the Apple App Store. You may be notified of an update to ForeFlight Mobile via an update badge, push notification, or banner, depending on your iOS device's notification settings.

**NOTE:** Not all ForeFlight Mobile updates will contain firmware updates for the receiver.

Once you have updated ForeFlight Mobile, you can apply the receiver firmware update, if one is available, from the Stratus Status page. The receiver must be powered on and the iOS device must be connected to the Stratus 2i Wi-Fi network. If a firmware update is available, the firmware version on the Stratus Status page will be followed by the text "Tap to Update."

**NOTE:** Do not apply firmware updates while in flight.

To apply the update, tap the firmware version number on the Stratus Status page and follow the on-screen instructions. It may take several minutes to update the receiver's firmware. Do not power off your receiver or iOS device during a firmware update or close ForeFlight Mobile. You may need to reconnect to ForeFlight Mobile after your receiver's firmware has been updated.

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## WARNINGS

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### **Data**

- Use of portable electronic devices while in flight may be hazardous. Use of Stratus portable receivers in an operating aircraft is subject to approval by the Pilot in Command.
- Position information provided by Stratus portable receivers should be used for situational awareness only and should not be used as your primary navigation source.
- AHRS and Synthetic Vision data provided by Stratus portable receivers and ForeFlight should be used for supplemental purposes only.
- Stratus 2i does not contain a battery, unlike other Stratus portable devices. For this reason, Stratus 2i should not be relied upon to be a backup AHRS in the event of aircraft power loss.

### **Weather**

- ADS-B weather information is provided within the United States only.
- Weather information provided by Stratus portable receivers is delayed and may not always be available. Do not rely solely on the information provided by the receiver to make tactical decisions.

### **Traffic**

- Stratus portable receivers do not replace the need for collision avoidance systems or see-and-avoid procedures. Most aircraft are not currently ADS-B Out equipped and therefore not detectable by Stratus portable receivers.



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## NOTES

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## RESETTING TO FACTORY SETTINGS

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To return Stratus 2i to its default factory settings, press and hold the power button for 30 seconds while the device is on. Once the factory reset is complete, all of the LED indicators will cycle from green to yellow to green. The factory reset will change the LED dimming and power mode settings back to default and auto-calibrate Stratus 2i.

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## SERVICING

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Stratus 2i is not field-serviceable. If you believe your Stratus 2i requires repair or maintenance, please contact the retailer you purchased your Stratus 2i from for further instruction. Contact information for Stratus portable receiver retailers can be found on the back cover of this Pilot's Guide.

Repairs made outside of a Stratus-approved repair center could void the warranty and may result in further damage to the device.

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## WARRANTY

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The Stratus Portable Receiver Limited Warranty is valid one year after a Stratus portable receiver is shipped from the retailer. To view the full warranty, visit [www.appareo.com/support](http://www.appareo.com/support)

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## SUPPORT

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For product support, contact your original retailer:

### **Sporty's**

513-735-9000

[stratus@sportys.com](mailto:stratus@sportys.com)

[www.sportys.com/stratus](http://www.sportys.com/stratus)

### **Appareo**

[support@appareo.com](mailto:support@appareo.com)

[www.appareo.com/stratus](http://www.appareo.com/stratus)

For questions about ForeFlight:

### **ForeFlight**

[team@foreflight.com](mailto:team@foreflight.com)

[www.foreflight.com/stratus](http://www.foreflight.com/stratus)

### **FAQs**

Answers to your frequently asked questions and a map of current national ADS-B coverage may be found on any of our websites.

This system incorporates elements of the UBR technology developed by the Mitre Corporation on behalf of the U.S. Government.

**MITRE**  
TECHNOLOGY APPLIED



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