STRATUS
by APPAREO

STRATUS ES/ESG PILOT'S GUIDE

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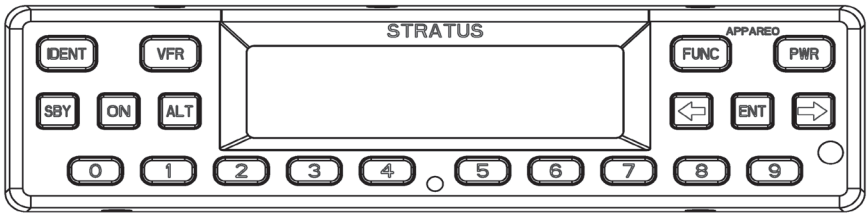©2015-2018 Appareo Systems, LLC. All rights reserved.

WARNINGS

- Read this Pilot's Guide before your first flight with Stratus ES/ESG.

- Squawk codes 7500 (hijacking), 7600 (radio failure), and 7700 (emergency) are reserved for emergencies. There may be other reserved codes, depending on the region you are flying in. It is the pilot in command's responsibility to comply with their jurisdiction's operating rules and regulations.

- Use a dry cloth to clean Stratus ES/ESG. If necessary, you can use a lightly damp cloth with a solution of mild detergent. Do not use cleaners containing ammonia, acetone, or other strong acids or bases to clean the Stratus ES/ESG display or faceplate.

- This document must always remain in the aircraft that has Stratus ES/ESG installed.

1. About Stratus ES/ESG

Stratus ES/ESG by Appareo is an ADS-B Out transponder designed to help pilots meet the FAA 2020 mandate. Stratus ES/ESG responds to legacy Mode A/C interrogations and Mode S interrogations from both ground radar and airborne collision avoidance systems. Stratus ES/ESG are 1090 ES transponders, where Stratus ES connects to an external GPS and Stratus ESG has a certified WAAS GPS in the same box.

2. Using Stratus ES/ESG

2.1. Usage limitations

There are no limitations associated with the usage of Stratus ES/ESG.

2.2. Default screen

The Default screen displays the currently selected mode, squawk code, and any event indicators.

2.3. Event indicators

When certain events occur, an event indicator will appear on your Stratus ES/ESG display. The table below describes each indicator's meaning.

Indicator	Meaning
⊕	ADS-B transmission contains GPS position information with a radius of containment under 1 nautical mile.
Ⓡ	A response was transmitted from a Mode A/C/S interrogation. The indicator will time out if another reply does not occur within one second.
⚠	A built-in-test (BIT) has failed. See Section 4 for more information about BIT failures.

2.4.   Mode selection keys

The table below describes each transponder mode. These modes will automatically transition for various phases of flight. Unless otherwise instructed, no action is needed.

Mode	Key	Description
Off	PWR	Stratus ES/ESG is powered off.
Standby	SBY	Stratus ES/ESG is powered on and does not send responses to any ATC interrogations.
Altitude	ALT	Stratus ES/ESG is powered on and responds to all Mode A/C/S interrogations. Altitude is reported.
Ground	(none)	Stratus ES/ESG is powered on and in ALT or On mode, but does not report altitude. Ground mode is automatically detected. Press the **ALT** or **ON** key to override Ground mode. Press **SBY** to remove this override.
On	ON	Stratus ES/ESG is powered on and responds to all Mode A/C/S interrogations, but altitude reporting is suppressed.

2.5.   FUNC key

Press the **FUNC** key or the arrow keys to switch from the default screen to the Pressure Altitude screen, GPS screen, Flight ID screen, and Brightness screen. These screens are described below.

Pressure Altitude screen: Displays the current pressure altitude. If no valid altitude is detected or Stratus ES/ESG is in On mode, the altitude field will be replaced by dashes.

GPS screen: Displays the aircraft's GPS position in degrees latitude and longitude. If no GPS signal is being received, the latitude and longitude fields will be replaced by dashes.

Flight ID screen: Displays the currently entered Flight ID.

Brightness screen: Allows for adjustment of screen brightness while in flight. Press **ENT**, then the left or right arrow keys to adjust brightness. Press **ENT** again to confirm the new setting.

2.6. Arrow keys

Use the arrow keys to advance forward and backward when entering numbers and letters. They can also be used to cycle through the various display screens.

2.7. Numerical keys

Use the numerical keys to enter information such as the flight ID or squawk code. See Section 3.1 for directions on how to enter the squawk code for your aircraft's flight and Section 3.2 for instructions for how to enter a flight ID.

Sometimes, a textual or non-numerical input will be required. If this is the case, press the number that is associated with the letter group you want to input, according to the graphic on the screen. To cycle through the letters associated with each number, press the number key repeatedly until the letter you want to input appears. You can input a space after cycling through all of the letters for a particular number key. Once the correct character is selected, use the arrow keys to advance to the next field to enter the next character in the sequence.

2.8. Identification (IDENT) key

If you are instructed by ATC to IDENT, press the **IDENT** key on your Stratus ES/ESG. IDENT will make your aircraft's reply pulse on ATC's monitors for 18 seconds. "IDENT" will be shown on the display while IDENT is activated.

2.9. VFR key

Press the **VFR** key to broadcast the VFR squawk code. The factory-set VFR code is 1200, but this number may be reconfigured by your dealer.

2.10. Power (PWR) key

Press the **PWR** key to power on and power off Stratus ES/ESG.

3. Using Stratus ES/ESG

3.1. Entering a squawk code

When on any screen that the squawk code is showing, press the number keys (0 through 7) to enter a new squawk code. Five seconds after the fourth digit is entered, Stratus ES/ESG will automatically save the entered squawk code.

NOTE: If you incorrectly enter a number before the code is automatically saved, press the left arrow key to go back to the previous field. Then, press the correct number key.

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3.2. Entering the flight identification number

To enter your flight identification number:

1. Press **FUNC** or the arrow keys until "Flight ID" appears. The previously entered flight identification number will be displayed on the Flight ID screen.

2. Press **ENT**.

3. Use the number keys to overwrite the previously entered flight ID. Use the left and right arrow keys to change the cursor position. See Section 2.7 for instructions on how to enter non-numerical input.

NOTE: If the new flight ID is less than 8 digits and there are characters from the previously entered flight ID remaining after the new flight ID has been input, insert spaces in those fields to overwrite the characters.

```
FLIGHT ID:  N 9 9 9 Z Z Z Z
ABC DEF GHI JKL MNO PQR STU VWX YZ
 0   1   2   3   4   5   6   7   8   9
```

4. Press **ENT** to confirm the new flight ID.

3.3. Configuring transponder settings

Stratus ES/ESG settings were configured by your dealer during installation. If you want to modify a setting, contact your dealer.

4. Troubleshooting

Use the table below to troubleshoot possible problems with Stratus ES/ESG.

Problem	Troubleshooting Steps
GPS information is not being received	Verify that the aircraft has a clear view of the sky. **NOTE**: Initial GPS fix could take up to 20 minutes.
The power key does not power on Stratus ES/ESG	1. Verify that the power key is not stuck. 2. Verify that the circuit breaker has not tripped. **If it has tripped**: Reset the circuit breaker switch and try the power key again. **NOTE**: If the circuit breaker opens it may be reset only once. **If it has not tripped**: Contact your dealer for further assistance.

The screen displays a BIT failure The display screen will display a warning message and a degraded state indicator ⚠ in the event that any of Stratus ES/ESG's BITs fail.	The Stratus ES/ESG screen might display a warning message with the instructions below. Below is guidance regarding how to assess the failure: • **PRESS FUNC TO CLEAR**: A non-critical error has been detected. Stratus ES/ESG will run in a degraded state until the error is resolved. Contact your dealer for further assistance. • **PLEASE RESTART UNIT**: A critical error has been detected. Restarting the unit might fix the error. If the message returns after restarting, contact your dealer for further assistance. • **PLEASE SHUTDOWN UNIT**: A critical error has been detected. Power off the unit and do not power it back on. Contact your dealer for further assistance. • **WAITING TO BE UNSTUCK**: A key has been depressed for more than 20 seconds. If a key is stuck, try to unstick the key. • **WAITING FOR RELEASE**: The external suppression input is constantly in a suppressed state. Contact your dealer for further assistance. • **ATTEMPTING TO RECOVER**: A squitter rate error has been detected. The transponder may recover itself, but if it does not, restart the unit. If the message returns after restarting, contact your dealer for further assistance.

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SUPPORT

Have questions? View our FAQs at www.appareo.com/support/stratus/stratus-support-faq. Otherwise, contact your authorized Appareo dealer for product support and information about servicing Stratus ES/ESG.

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

To view the Stratus ES/ESG Limited Warranty, visit www.appareo.com/stratus-warranty.

FCC INFORMATION

Stratus ES/ESG has an FCC ID of 2AETC-1505005.

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