

SQUAWKITUDE

Quick Start User Guide
Your Virtual Copilot for General Aviation

Introduction

Squawkitude is an Aviation Solution that provides altitude and airspeed voice alerts for non-pressurize General Aviation aircraft. It is a unique solution designed for the Android mobile devices provide verbal alerts for Gear Check, GUMP Check, altitude, aircraft speeds as well as reminders such as switching fuel tanks and checking wind and pressure setting. You will receive both critical and informational verbal call-outs and alerts. This truly makes *Squawkitude Mobile* "Your Virtual Copilot™."



Squawkitude is designed to be a pilot's virtual copilot™. It provides verbal alerts to the pilot during key phases of flight. During landing phase, *Squawkitude Mobile* senses when gear check and GUMP alerts are needed and then annunciates to the pilot to "Check Gear" or "Perform GUMP Check." If the pilot desires, call-outs will occur at various V-Speeds for the aircraft.

Why Use Squawkitude?

Statistics show that two man flight crews have a higher safety record than single pilot flying. That's one of the factors that show the airlines have a much lower accident rate than General Aviation. This applies especially to complex aircraft. When the single pilot is distracted having to perform procedures out of the norm such as go-arounds, this is when accidents occur. The pilot forgets to put the gear down, and you have a gear-up accident. This is where *Squawkitude Mobile* can help.

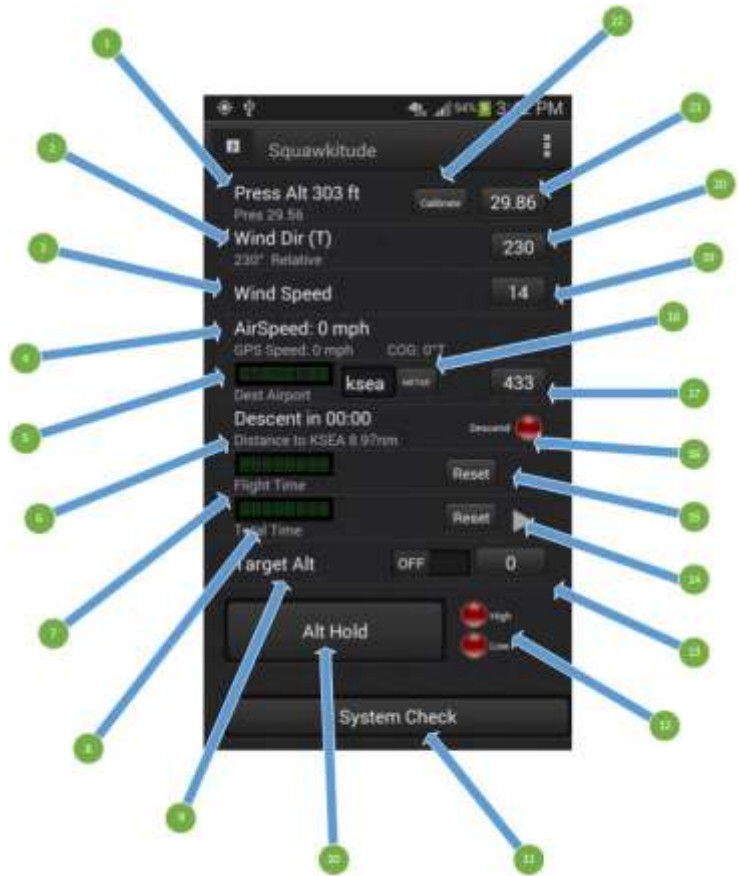
Squawkitude Features

Squawkitude Altitude Alerting Management System is packed full of features designed to assist the general aviation pilot by providing alerts at critical times of flight. Below details the features built into Squawkitude.

1. If your device has a pressure sensor this is the current altitude for the sea level pressure set in item 21. Use item 22 to calibrate if needed. If you device has no pressure sensor this is the GPS altitude.

2. Squawkitude uses your current speed and direction and calculates the relative wind based on the wind speed and direction set in item 19 and 20.

3. This is usually the wind speed at the nearest reporting METAR station. This can be set manually using item 19 or is automatically set using the METAR button, item 18.



4. Air Speed is calculated from GPS speed (over ground) and course using the reported wind speed and direction set in item 19 and 20.
5. Scrolling METAR data for airport selected by item 18.
6. Using the distance to the airport selected in item 18 Squawkitude calculates the descent point based on current altitude and the time required to descend to pattern altitude at the descent rate in settings. Time to descent point is displayed in HH:MM. Squawkitude makes an announcement five minutes to descent point and then again at the descent point (and lights the "descend" LED). This function uses data from the ICAO codes download file. If the ICAO file has not been downloaded this function is inoperable.

7. The flight time counter starts when you accelerate past stall speed. You can reset this counter.
8. The total time counter starts automatically when your speed is above five mph. You can pause or reset this counter.
9. Use item 13 to set a target altitude. When this switch is "on" Squawkitude notifies you within 500 feet of the target altitude.
10. The altitude hold button remembers your current altitude and Squawkitude reminds you when you are 500' above or below this altitude.
11. Use this button to get a spoken summary of your speed, altitude, and other settings. This allows you to set the volume and verify connections.
12. When altitude hold (item 10) is in use these LEDs indicate 100' above or below the set altitude.
13. Displays and, when pressed, is used to set target altitude for item 9.
14. Controls for the total time stopwatch.
15. Used to reset the flight time stopwatch.
16. Illuminates when at descent point. Used for item 6.
17. Displays the elevation of the airport set in item 18. When pressed allows you to manually set destination elevation.
18. Sets an airport ICAO code and retrieves current METAR data for that airport. The METAR wind information is loaded into item 19 and 20. If the ICAO codes database has been loaded this code is also used to look up the airport's elevation and lat/lon which is used for computing descent point in item 6.
19. Displays the wind speed at the airport set in item 18. When pressed allows you to manually set wind speed.
20. Displays the wind direction at the airport set in item 18. When pressed allows you to manually set wind direction.

21. Displays the sea level pressure (altimeter) at the airport set in item 18. When pressed allows you to manually set altimeter pressure.
22. Used for altitude calibration. When stationary, on the ground, at the airport selected in item 18, press the Calibrate button and enter the known altitude. Squawkitude calculates the necessary correction and applies that to all altitude values. This step is not necessary unless your altitude readings are incorrect.

Initial Setup and Configuration

After the installation of Squawkitude, there are a few simple steps required to configure the application before you will be ready to use it.

Squawkitude Initial Setup Steps

→ **Download ICAO Database**

On the options menu, select download the ICAO Airport database. This step is required in order for Squawkitude to obtain elevation and LAT/LON information.

→ **Configure Your V-Speeds**

On the settings page, enter your critical v-speeds for your aircraft. If you don't have or wish to alert on a given speed, set the speed to 0.

→ **Set GUMP/Gear Altitudes**

On the Setting page, set your GUMP altitude to the altitude of you wish to be alerted to check GUMP. This altitude is AGL. If your aircraft is a retractable, set you altitude of when you want to confirm that your gear is down and locked. Set to 0 if you have a fixed gear aircraft.

Wind and Pressure Alerts – Set this value to the number of minutes you want to be reminded to check wind and altimeter settings.

Fuel Tank Alert – Set this value to when you want to be reminded to switch fuel tanks.

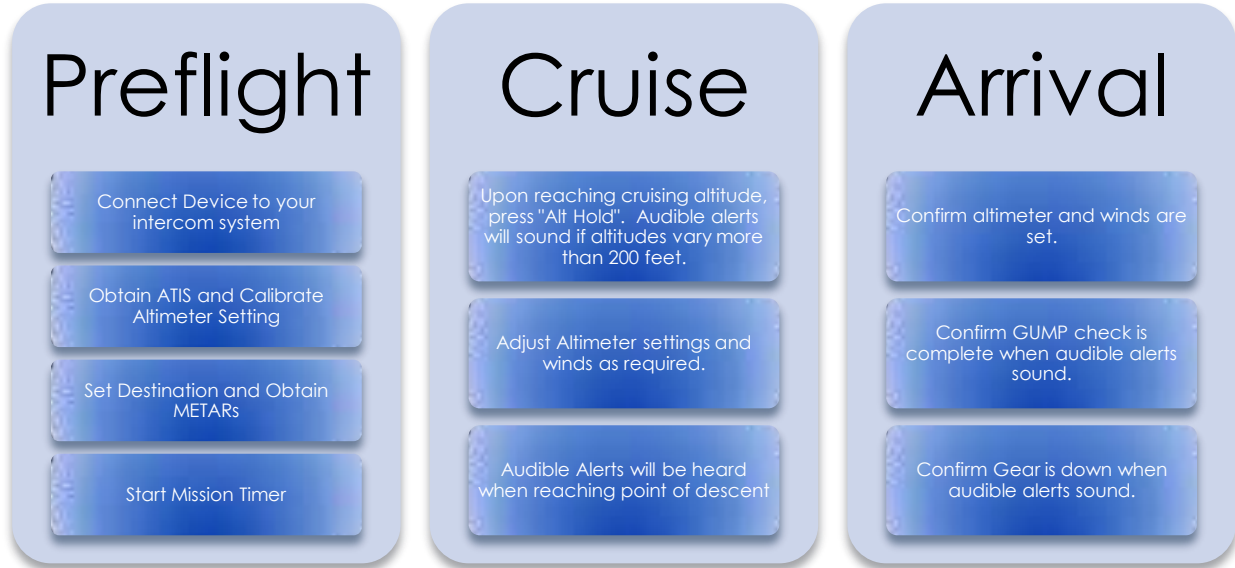
→ **Set Additional Settings**

GUMP/Gear Speed – If your device doesn't report barometric pressure, switch this option to ON. This will tell Squawkitude to use GPS altitudes.

Descent Speed (FPM) – Enter your desired descent speed.

Squawkitude Inflight Guide

Now that you've completed the initial setup of Squawkitude, it's time to head to the airport and go flying. This section will walk you through a sample flight using Squawkitude.



Preflight

The preflight is the initial setup and configuration of your mission's flight profile. Follow these steps to ready Squawkitude for flight.

- ✓ **Connect Device to your intercom**

There are several options to connect your device running Squawkitude. The easiest way is to plug your device directly into your aircraft's intercom system. If that's not an option, you can purchase an audio splitter cable. This works great with the only limitation being only the pilot will hear the alerts. This method works very well with in-ear headsets like Halo. For some older headsets, a small amplifier may be required to hear the audio.

After completing the setup and you've started the aircraft, press the "System Check" button to confirm volume levels.

- ✓ **Obtain ATIS and Calibrate Altimeter Settings**

After obtaining your ATIS, you will need to validate that Squawkitude's barometric pressure sensor is calibrated. To do this, set Squawkitude's Altimeter setting to what was briefed from ATIS. Confirm that the elevation displayed matches the airport's elevation. If not, press the calibration button to set to the correct elevation.

✓ **Set Destination and Obtain METARs**

After completing your setup and calibration of your altimeter, you will want to enter your destination airport. This will set the airport elevation for your destination. If your device has cell phone connectivity, press the METAR button. This will bring in the METAR for your destination and will also set the winds at your destination.

If you desire, you can also enter your expected cruise altitude. If you decide to use this feature, on the main screen slide on the "Target Alt" switch and enter your target altitude. If this option is selection, when approaching your target, an audible alert will be heard.

✓ **Start Mission Timer**

You have now completed the setup of Squawkitude and it's time to go flying. When you start your taxi for departure, press the Total Time button. This will capture your overall mission time.

There is a Flight Timer that will start and stop automatically when your aircraft is above stall speed.

Cruise

Climb out and en route cruise inflight Squawkitude's primary use is to alert the pilot when reaching desired cruise altitude, monitoring for altitude deviation and reaching start of decent point.

✓ **Approaching Cruise Altitude**

If you configured a desired or target altitude discussed prior, you'll receive an alert as you approach that altitude. You will be alerted if your altitude deviates more than 200 feet.

Another option with Squawkitude is to not use the pre-selected altitude and when you reach your cruising altitude, you press the "Alt Hold" button. That will lock in the current altitude. You will be alerted if your altitude deviations more than 200 feet.

✓ **Adjust Altimeter and Wind Settings**

Other tasks that Squawkitude will remind the pilot to do are to switch fuel tanks and check your altimeter and wind.

✓ **Audible Alerts when Reaching Point of Descent**

Squawkitude monitors the distance to your destination and based on your configured descent speed (default is 500fpm) determines when to start your descent. If you start your decent when alerted and descend at your

preselected descent speed, you will arrive at pattern altitude 3-4 miles from your destination.

Arrival

On your descent to pattern altitude, you be alerted on various airspeeds you have configured. Depending on what you configure, you'll be alerted to when you've reached gear extend speed, flap extend speed and others.

- ✓ **Confirm Altimeter and Wind**

On your descent, you would obtain the destination airport's ATIS. After setting your altimeter, you would also update Squawkitude's altimeter and wind so that it reflects the current conditions.

As you descend and start slowing your aircraft, you'll be alerted for gear extend speed, flap extend speed or any other airspeeds that was configured for your aircraft.

- ✓ **Confirm GUMP Check**

One of the settings is to define your altitude (AGL) you want to be reminded to perform your GUMP check. When you reach that altitude, the audible alert will sound. You can set it just above what your pattern altitude would be and have it alert for your first GUMP check or a couple of hundred feet below and have it alert on Base or Final for you last GUMP check.

- ✓ **Confirm Gear is Down and Locked**

For aircraft with retractable gear, you'll configure the altitude (in AGL) that you want your Gear Check audio alert to remind you to confirm that your gear is down and locked. If your aircraft doesn't have retractable gear, you would want to set this to zero feet to disable the feature.

Post-Flight/Taxi

After landing at your destination, you'll notice that your flight timers has stopped and only your missing timer will continue to run.

After taxiing to parking and shutting down your aircraft, the last step is to press the stop button on your mission timer. Document both flight and total mission time in your flight log.

Squawkitude Support

As proud as we are of Squawkitude, we know that every application can be approved on. Everyone at Squawklog Solutions, LLC is very interested in knowing of any issues, recommendations or just a question on how to use Squawkitude please contact us at:

Support@SquawkLog.com