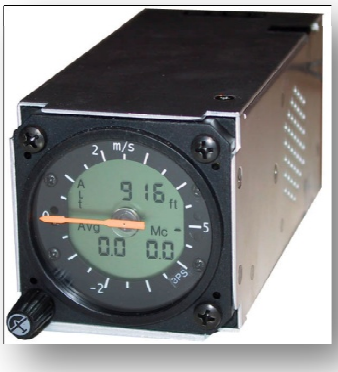
Cambridge© 302 - Description of Tones



Some of the following text is taken verbatim from the Cambridge© 302 manual. I hope they don't mind.

Initialization Tones – During the 302's power up initialization cycle a sequence of raising and lowering climb tones may be heard. The tone might not be heard if the 302 was powered down with its audio level set to minimum.

Climb Tone – In climb mode, lift is indicated by a broken, high pitched, audio tone – beep-beep-beep. The tone's pitch and beep rate are proportional to the climb rate.

Sink Tone - Sink is indicated by a continuous, low pitched, audio tone – beeeeeep. The tone's pitch is proportional to the sink rate. The sink tone will disappear when at the correct speed-to-fly (see the next item for details).

Speed-to-fly Tone - In Cruise mode, short beeps and the UP arrow means you should slow down (pull up). A continuous tone and the DOWN arrow means you should speed up (push over). No tone will be heard when the glider's airspeed is at the correct speed-to-fly for the current sink rate. See footnote[1] for more details.

Slow Speed Warning Tone - A di-di-dah "Slow Alarm" warning tone will be heard if the glider's airspeed is below the slow alarm speed threshold (screen #8). See footnote[2] for more details.

External Warning Tone – A di-di-dah warning tone can be triggered by an external device. For example, Glide Navigator II© running on a PDA connected to the 302 can trigger a warning tone when flying in Special Use Airspace (SUA).

Gear/Airbrake Warning Tone - A "European Police Car" tone will be heard. Requires optional connections and switches for this to operate.

1) The tone will be heard if the airbrakes are unlocked with landing gear locked/extended and the airspeed rises above 25 knots. I.E. following initial takeoff roll.
2) The tone will be heard if during flight the landing gear is not locked/extended and the airbrakes are unlocked.
3) The tone can be silenced by pressing the front panel knob on the 302.
4) The tone will not be heard if the airbrakes are unlocked with landing gear locked/extended during normal flight (as opposed to #1 above).
5) The alarm can be tested by powering up the 302 while the airbrakes are unlocked (regardless of gear position) or after powering up when the airbrakes are unlocked and the gear is not locked/extended.

V0.4 John H DeRosa john@derosaweb.com

[1] The speed-to-fly airspeed is a range of the difference between the calculated speed-to-fly and the glider's airspeed plus or minus ½ the "Speed-to-fly dead band width". For example, if you set the dead band width to 20 knots, you will not hear cruise tones within plus or minus ten knots of the calculated speed-to- fly for the current sink or lift rate.

[2] The slow speed alarm also depends on wing loading. Wing loading depends on water ballast and on instantaneous g-force. The 302 automatically adjusts the threshold airspeed to account for these factors.