Current bugs?

None that I am aware of

Current Questions:

* **How will we control the amplitude? Is it standardized somehow?**
* **Should the amplitude range be higher?**
* **Audiogram graph** 
  + **X axis on top or bottom?**
  + **Indicators for hearing loss threshold?**
  + **Should I automatically compute these in Python?**

How long is each tone presented for?

5.2.1 Tone duration   
Threshold exploration is carried out by presenting tones of 1-2 seconds duration.

Listener hears tone for 1 second every time

Right after that 1 second is over, they have a 3 second window to press a button

2 seconds +- 1 second

Between then and the next signal presentation

5.2.2 Interval between tones   
The interval between successive presentations shall be varied, but shall not be shorter than the test tone

2 seconds +- 1 second

Is the participant asked to press the button as the tone is being played, or after?

after

If it is during, should the tone stop once they indicate that they can hear it?

* Get text for introduction
* Get sound files
* Make sure that the blue button is the ‘1’ key

No conclusion

The buttons correspond to numbers on the keyboard, so check for keypress ‘1’?

Don’t want to show any text on screen so that they are not primed to know when the sound is coming

5.2.3 Level of first presentation   
The level of the first presentation of tone for threshold measurement is 10 dB below the level at which the test subject responded during the familiarization procedure.

Should we do this, or always start at 10 db?

Are we doing a “familiarization process”?

1 trial of same frequency (1000hz):

Start at -20db and as soon as they get a hit, we are done, and that becomes the starting point for the actual trials

How should we output the data?

Maybe make audiogram after we finish

Goal: find the quietest volume at which a patient can perceive each frequency ⅔ times

Should 2/4 times work? no

Going up from 1000hz in steps of 1000s, testing

For 1000hz, start with increasing volume, up to 20 or 30 decibels

Start with 0 dbs, increment in 5 dbs if you dont get a hit, until you get a hit. Then, go down by 10

When a positive response is obtained from the examinee, drop the level in 10 dB steps and

present the signal again until no response is obtained.

When there is no response, increase the intensity in 5 dB steps and present the signal each

time until the tone can again be heard by the examinee. Count this response toward threshold.

Continue to search for threshold in this manner—decreasing the stimulus in 10 dB steps

following each positive response and increasing the stimulus in 5 dB steps following each nonresponse.

Count responses made following an increase in stimulus intensity toward threshold (these

are called "ascending presentations"); do not count responses made following a decrease in stimulus intensity toward threshold (these are called "descending presentations").

**Don’t count hits, or both hits and attempts**

Threshold is defined as the lowest intensity at which the tone has been heard by the

examinee **at least 50 percent** of the time following a minimum of three ascending presentations at that level (e.g., at least 2 out of 3, 2 out of 4, 3 out of 5, etc.).

**Should the very first presentation at a frequency count if its a hit?**

**yes**

Ex. Say we dont get a hit at 0, 5, then hit on 10.

Go back down to 0, 5, then hit on 10 again.

Since we need at least 3 trials at a given intensity, we go again?

0, 5, 10 (regardless of whether they hit on 10, we stop and conclude they hear that frequency at 10)

2000hz,

Are we doing “3.11 manual pure-tone threshold audiometry”

The level of the first presentation of tone for threshold measurement is 10 dB below the level at which the

test subject responded during the familiarization procedure

The level of succeeding presentation is determined by the preceding response. After each failure to

respond to a signal, the level is increased in 5 dB steps until the first response occurs. After the

response, the intensity is decreased 10 dB and another ascending series is begun.

Threshold is defined as the lowest hearing level at which responses occur in at least one-half of a series

of ascending trials, with a minimum of two responses out of three required at a single level. If variation

occurs, limits shall be set as noted in Appendix B.

When appropriate information is available, the better ear shall be tested first. The frequency of the first

test stimulus shall be 1000 Hz. Higher frequencies shall then be assessed in ascending order followed by

a retest of 1000 Hz, and finally the lower test frequencies, 500 and 250 Hz, shall be tested. If the retest

results of 1000 Hz differ from the first test by more than 5 dB, the lower of the two thresholds may be

accepted and at least one other test frequency should be retested.

Have to ⅔ hits

500, 250

⅔ times