Sound Generation

User Manual

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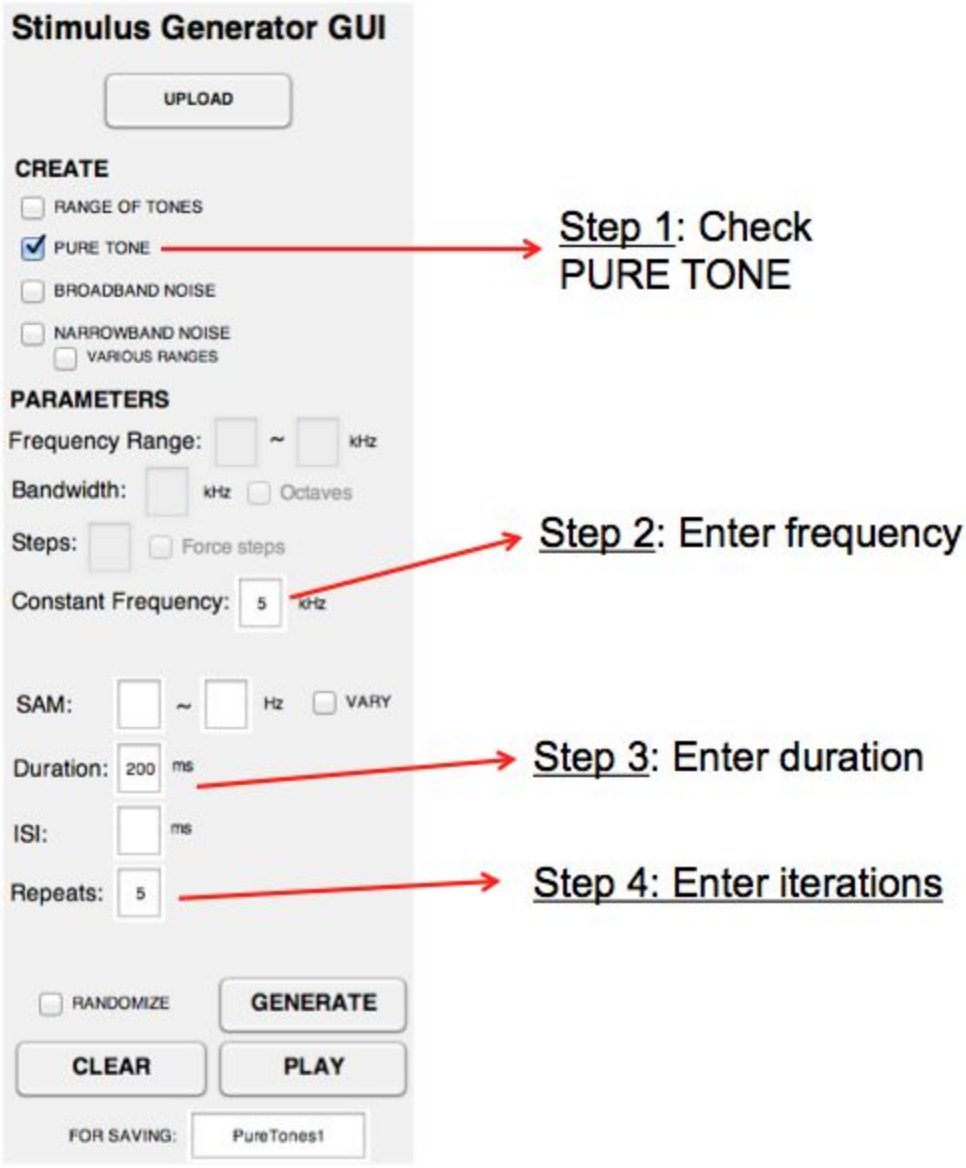
Contents:

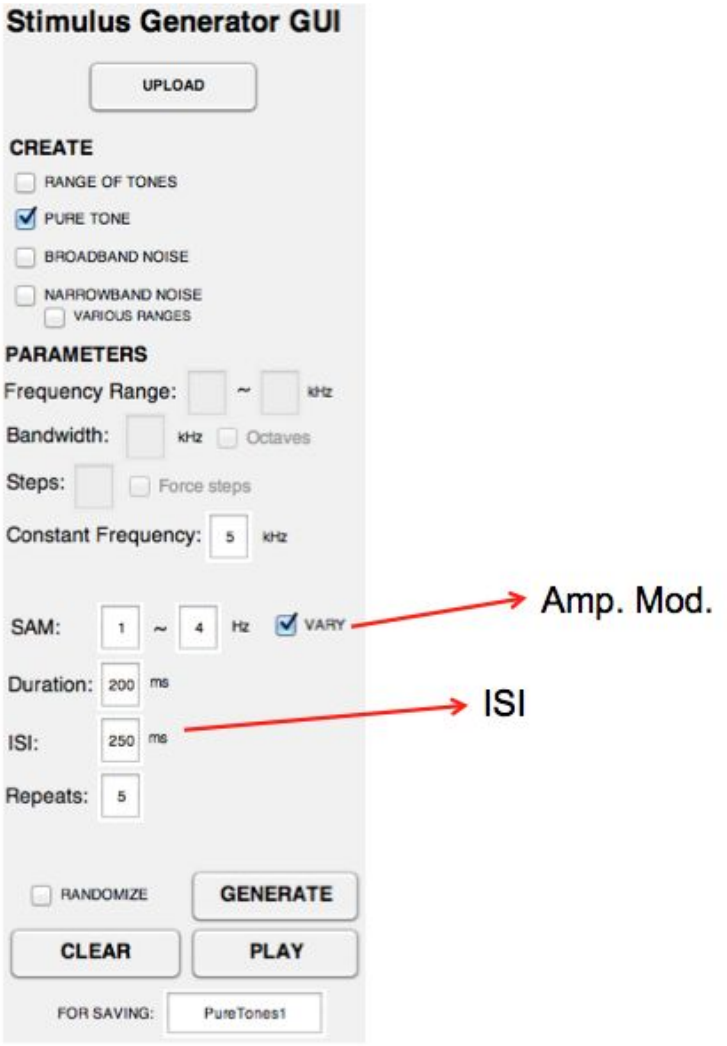
I. Creating a Pure Tone

1. Under CREATE, check the box that says ‘Pure Tone’.
    - Make sure that there are no other boxes checked!
2. Enter a number in kHz for the frequency of the tone in the box that says ‘Constant Freq’ under PARAMETERS.
3. Enter the duration of the tone is milliseconds in the box titled ‘Duration’ under PARAMETERS.
4. Enter the number of iterations in the ‘Repeats’ box. If only presenting the stimulus one time, enter ‘1’.

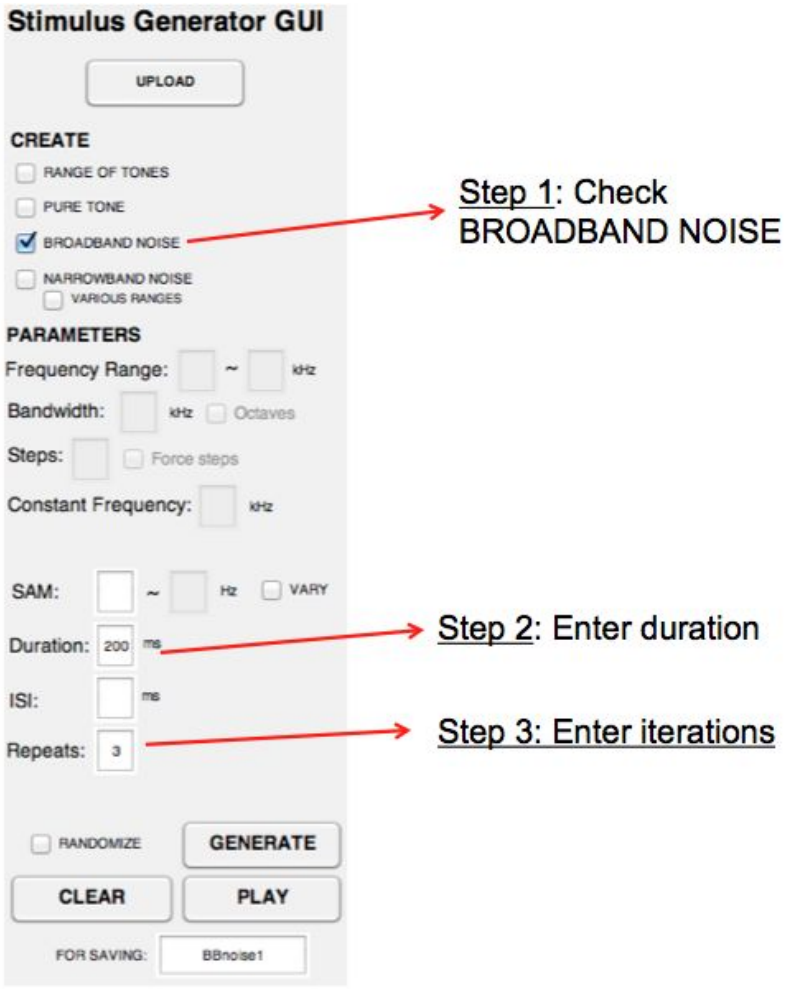


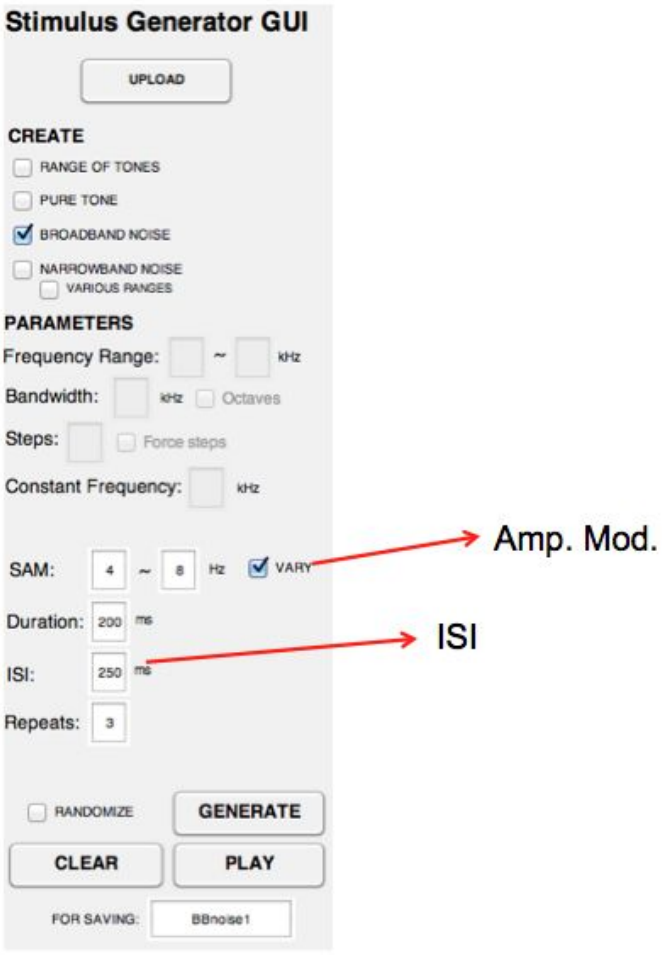
Additions:

- To *modulate the amplitude* of tone, enter a number in Hz in the first box titled ‘SAM’.
- To vary the amplitude modulation within a range, enter the low number in the first box and the high number in the second box.
    - Check the ‘VARY’ box next to SAM.
    - See more on amplitude modulation in section VI.
- If you have multiple iterations of the stimulus, you might want to add an *ISI* between each iteration.
    - Enter a number in milliseconds in the ISI box.
- To randomize the presentation of multiple stimuli, check the ‘Randomize’ box next to the ‘Generate’ button.

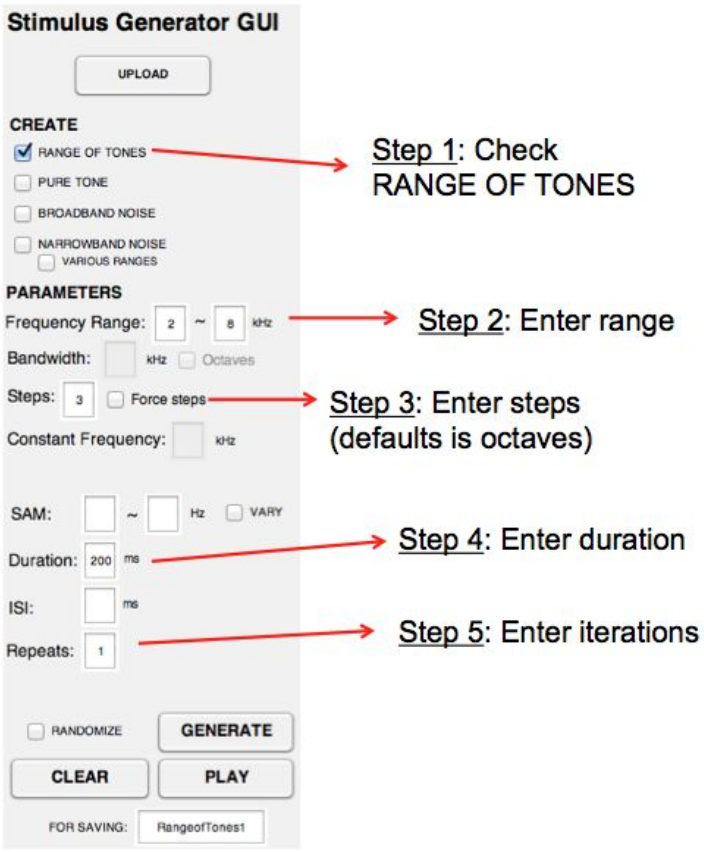


II. Creating Broadband Noise




Stimulus Generator GUI
UPLOAD
CREATE
RANGE OF TONES
PURE TONE
BROADBAND NOISE
NARROWBAND NOISE
VARIOUS RANGES
PARAMETERS
Frequency Range: ~ kHz
Bandwidth: kHz Octaves
Steps: Force steps
Constant Frequency: kHz
SAM: 4 ~ 8 Hz VARY
Duration: 200 ms
ISI: 250 ms
Repeats: 3
RANDOMIZE
GENERATE
CLEAR
PLAY
FOR SAVING: BBnoise1
Amp. Mod.
ISI

III. Creating a range of tones

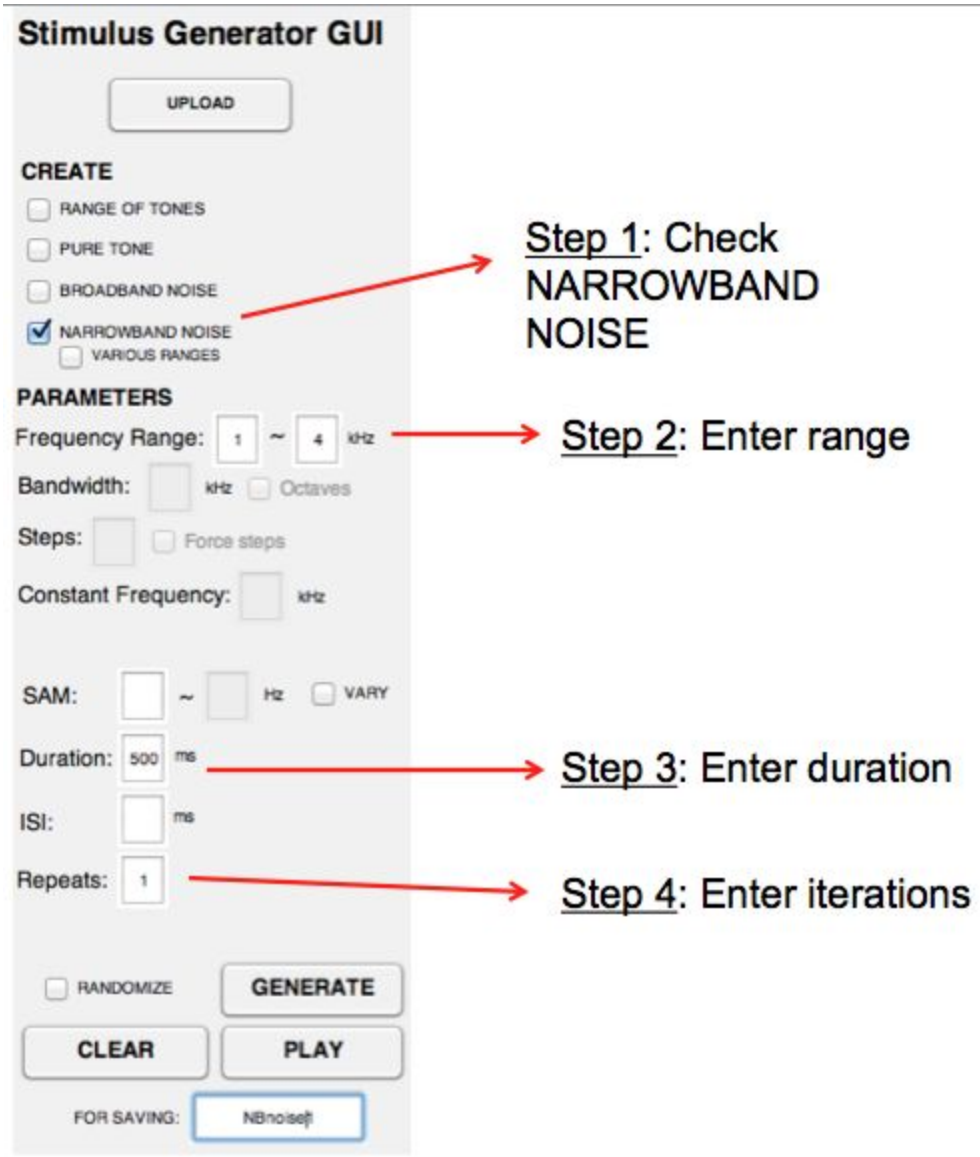


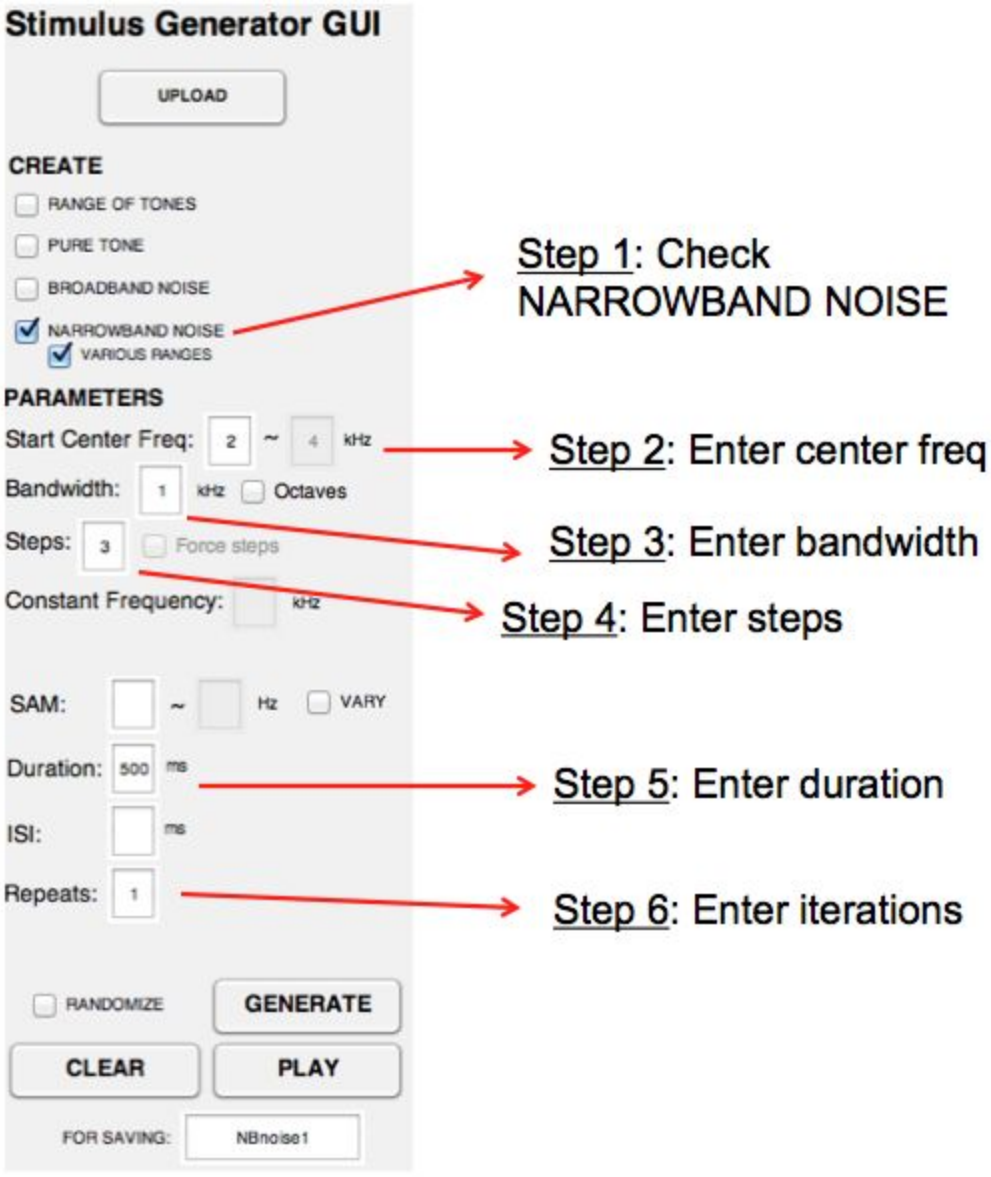
*When entering the range of tones:

(1) The default is in octaves. If you enter a range that isn't naturally in octaves, it will only play to the last octave. If you choose force steps and enter a number, then the range will be split by the number of steps.

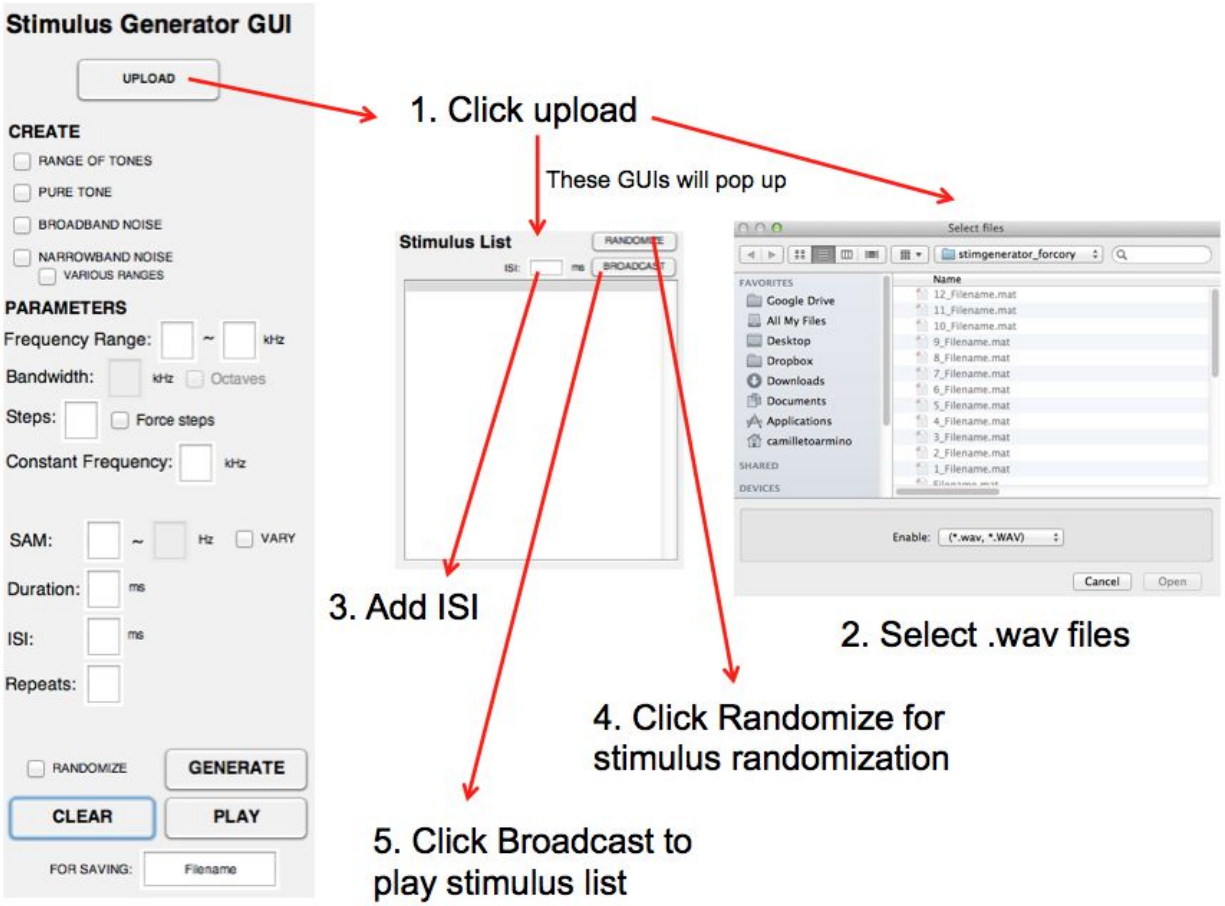
(2) If you want to repeat an entire range of e.g. 4 tones 3 times, then multiply those numbers and enter 12 in the repeats box.

IV. Narrowband noise

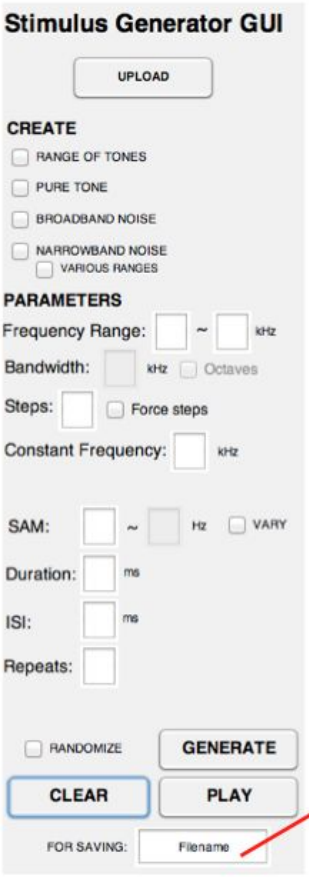



Stimulus Generator GUI
UPLOAD
CREATE
RANGE OF TONES
PURE TONE
BROADBAND NOISE
NARROWBAND NOISE
VARIOUS RANGES
PARAMETERS
Start Center Freq: 2 ~ 4 kHz
Bandwidth: 1 kHz Octaves
Steps: 3 Force steps
Constant Frequency: kHz
SAM: ~ Hz VARY
Duration: 500 ms
ISI: ms
Repeats: 1
RANDOMIZE
GENERATE
CLEAR
PLAY
FOR SAVING: NBnoise1
Step 1: Check NARROWBAND NOISE
Step 2: Enter center freq
Step 3: Enter bandwidth
Step 4: Enter steps
Step 5: Enter duration
Step 6: Enter iterations

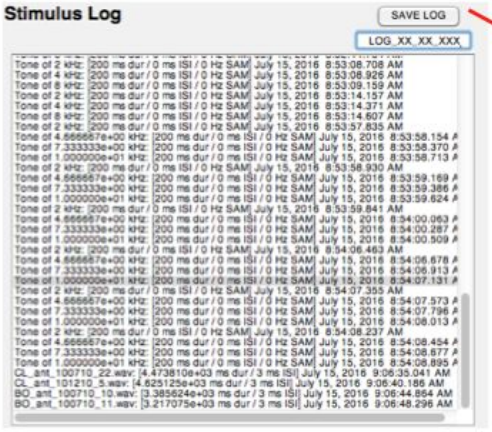
V. Loading .wav files



VI. Saving Data



Every time you create a stimulus set and broadcast it, a file is automatically saved to MATLAB with the following cells: 1) start times, 2) stimulus ISI, 3) stimulus duration, and 4) stimulus type.



2.Option to save the entire log as a back up. Enter name of the .mat file. It will not be split up the way the automatically saved files are. It's sole purse is to use as a reference and back up.

1. Enter a filename for saving. Each file created will be noted with a number. To make it easier to find, I suggest making the filename something related to the stimulus set