

# HULTI-GEN v1.0

## Multiple Comparison Quick-start Guide

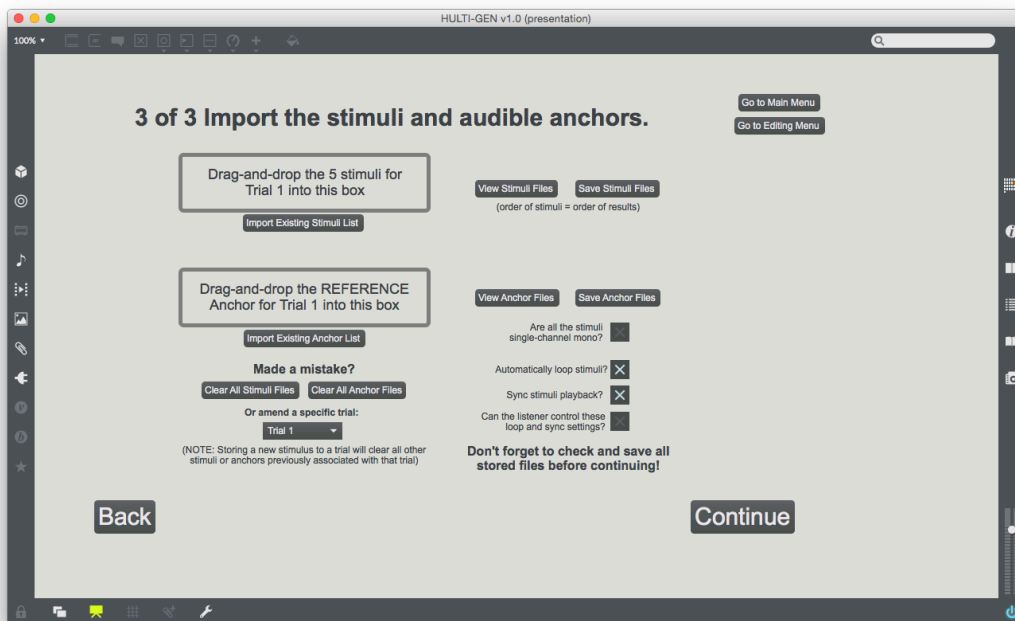
1. Select 'Create New Interface', which will present you with the screen below – in this example there are 5 stimuli being compared in each trial, with 3 trials in total:

The screenshot shows the '1 of 3 Input basic details about your listening test.' screen. It features a 'Testing method:' dropdown set to 'Multiple Comparison'. Below this are input fields for 'Number of Trials:' (3), 'Randomise Trials:' (checkbox), 'Stimuli Per Trial:' (5), and 'Randomise Stimuli within Trials:' (checkbox). To the right, 'Number of Total Repetitions:' is set to 1 and 'Number of Output Channels:' is set to 2. A section titled 'What will you be testing?' contains a text box with the instruction 'Compare the stimuli.' and a 'Width:' slider. At the bottom are 'Back' and 'Continue' buttons. Navigation links 'Go to Main Menu' and 'Go to Editing Menu' are in the top right.

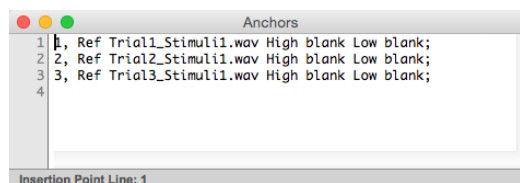
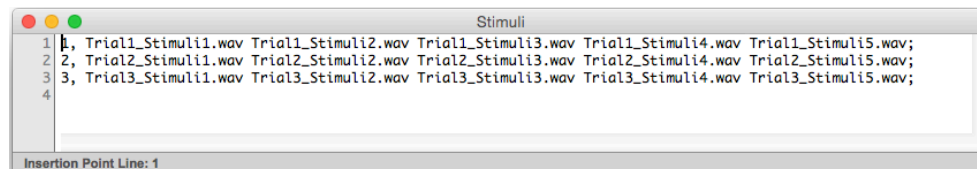
2. On the next screen you can edit the scale and audible references. The example below shows a MUSHRA scale with a reference at 100. Many aspects of the scale can be altered using the parameters on the left:

The screenshot shows the '2 of 3 Define the grading scale and labelling.' screen. It features a 'Scale Template:' dropdown set to 'Custom'. On the left, there are settings for 'No. of Labels:' (11), 'No. of Lines:' (6), 'Hide Lines:' (checkbox), 'Hide Score:' (checkbox), 'Maximum Scale Value:' (100.0), 'Minimum Scale Value:' (0.0), 'Scale Resolution:' (1), and 'Slider Starting Position:' (100.0). Below these are 'Audible Anchors (%)' for REF, High, and Low, and 'Labelling' options including 'Edit Labels', 'Hide all labels:', 'Label Font Size:' (24), 'Label Length:', and 'Label Position:'. The main area displays a MUSHRA scale with a vertical slider from 0 to 100, with labels 'Excellent', 'Good', 'Fair', 'Poor', and 'Bad'. A 'REF' button is on the left and an 'S' button is on the right. At the bottom are 'Back' and 'Continue' buttons. Navigation links 'Go to Main Menu' and 'Go to Editing Menu' are in the top right.

- The final stage is to import the stimuli filenames into the patch – all audio files must also be included in the project folder alongside the Max patch (not in a sub-folder). In the example below, the 5 stimuli for Trial 1 should be dragged into the upper box, and the reference for Trial 1 into the lower box (this is then repeated for the number of trials):

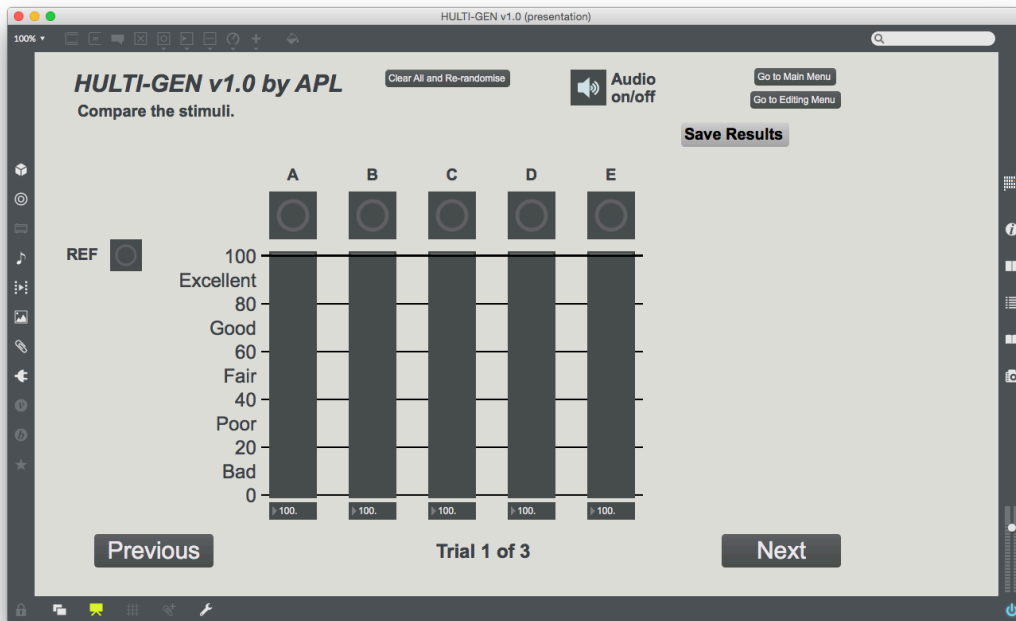


- Check all filenames have been imported correctly by clicking on the 'View Stimuli Files' and 'View Anchor Files' buttons:

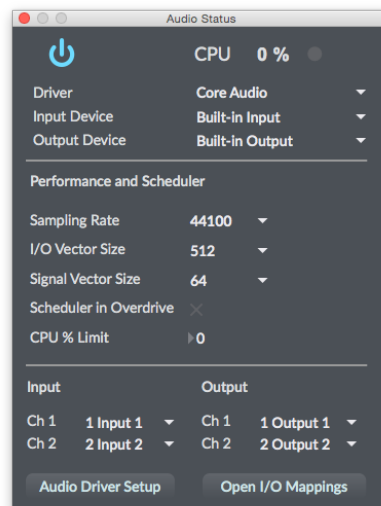


- To avoid having to drag stimuli in the future, selecting 'Save Stimuli Files' and 'Save Anchor Files' allows you to save and recall the file names quickly at a later time – simply click the 'Import Existing Stimuli List' and 'Import Existing Anchor List' buttons to load these saved files.

6. Your testing interface is now complete and ready to use. On the next screen select 'Generate Interface' and the output should look like this:



7. Finally, before getting underway with testing, check that the audio settings and mapping of channels are correct on your system. Navigate to 'Options' then 'Audio Status...' which will load the following window (the blue switch on the top left should be illuminated to run audio):



If you have any issues with HULTI-GEN or suggestions for improvements, please do not hesitate to get in touch with us via e-mail on:

[christopher.gribben@hud.ac.uk](mailto:christopher.gribben@hud.ac.uk) and [h.lee@hud.ac.uk](mailto:h.lee@hud.ac.uk)