

# HULTI-GEN v1.2 Multiple Comparison Quick-start Guide

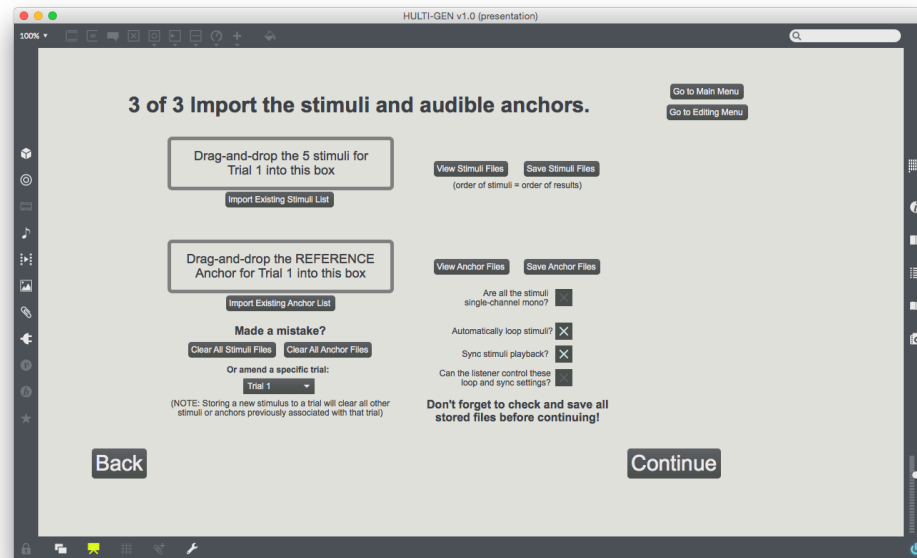
1. Select 'Create New Interface', which will present you with the screen below – in this example there are 5 stimuli being compared in each trial, with 3 trials in total:

The screenshot shows the '1 of 3 Input basic details about your listening test.' screen in the HULTI-GEN v1.0 (presentation) application. The interface includes a title bar, a search bar, and a sidebar with various icons. The main content area has a title '1 of 3 Input basic details about your listening test.' and two buttons: 'Go to Main Menu' and 'Go to Editing Menu'. Below the title, there is a 'Testing method:' dropdown menu set to 'Multiple Comparison'. The 'Number of Trials:' is set to '3', 'Randomise Trials:' is checked, 'Stimuli Per Trial:' is set to '5', and 'Randomise Stimuli within Trials:' is checked. The '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 'Write the test's instructions in the box below, then adjust the width to try and keep the text on the right under 3 lines high.' The text box contains the text 'Compare the stimuli.' and a 'Width:' slider is set to '1'. At the bottom, there are 'Back' and 'Continue' buttons.

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:

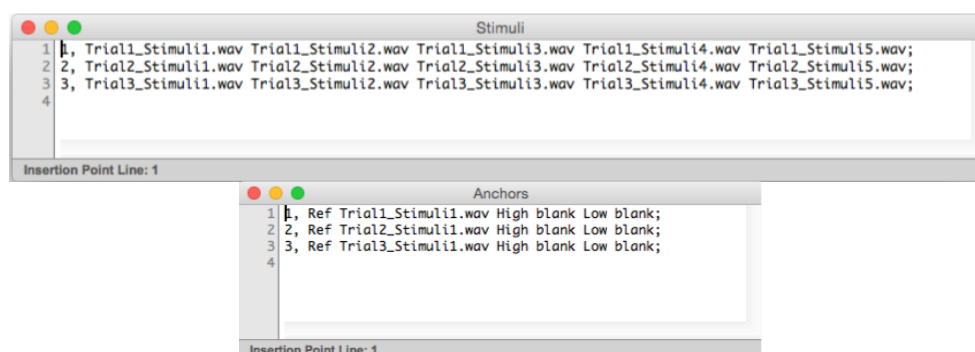
The screenshot shows the '2 of 3 Define the grading scale and labelling.' screen in the HULTI-GEN v1.0 (presentation) application. The interface includes a title bar, a search bar, and a sidebar with various icons. The main content area has a title '2 of 3 Define the grading scale and labelling.' and two buttons: 'Go to Main Menu' and 'Go to Editing Menu'. Below the title, there is a 'Scale Template:' dropdown menu set to 'Custom'. The 'No. of Labels:' is set to '11', 'Maximum Scale Value:' is set to '100.0', 'No. of Lines:' is set to '5', 'Minimum Scale Value:' is set to '0.0', 'Hide Lines:' is checked, 'Scale Resolution:' is set to '1', 'Hide Score:' is checked, and 'Slider Starting Position:' is set to '100.0'. The 'Audible Anchors (%)' section has three sliders: 'REF' (set to 100), 'High' (set to 100), and 'Low' (set to 0). The 'Labelling' section has an 'Edit Labels' button, 'Hide all labels:' is checked, 'Label Font Size:' is set to '24', 'Label Length:' is set to '1', and 'Label Position' is set to '1'. A large vertical scale is shown on the right, with labels 'Excellent', 'Good', 'Fair', 'Poor', 'Bad' and numerical values '100', '80', '60', '40', '20', '0'. The 'REF' label is at the top of the scale, and the 'S' label is at the bottom. At the bottom, there are 'Back' and 'Continue' buttons.

3. 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). Please note that v1.2 can now play 64-channel wav files. 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):

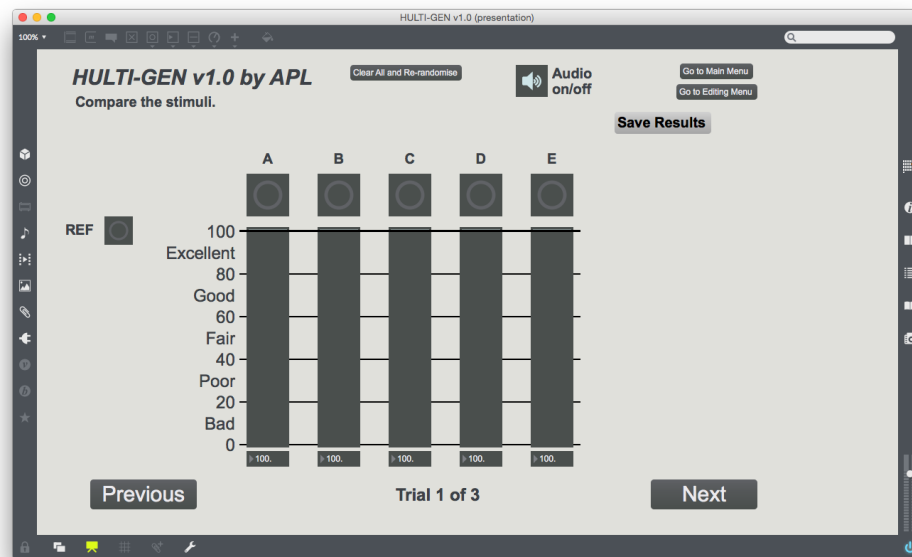


4. Check all filenames have been imported correctly by clicking on the 'View Stimuli Files' and 'View Anchor Files' buttons:

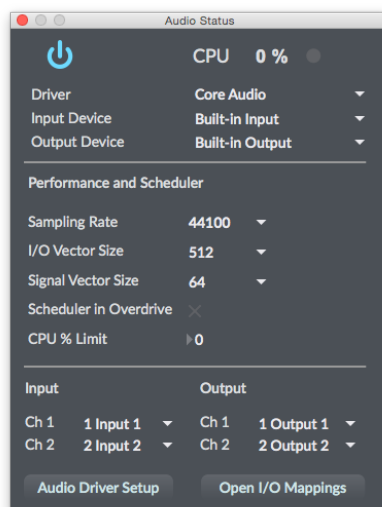
5. To avoid having to drag stimuli in the future, selecting 'Save Stimuli Files' and 'Save Anchor Files' allows you to save and recall the file names quickly at a later time – simply click the 'Import Existing Stimuli List' and 'Import Existing Anchor List' buttons to load these saved files.



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 Dr Hyunkook Lee ([h.lee@hud.ac.uk](mailto:h.lee@hud.ac.uk)).