Instructions to listeners

1. Introduction

The first step in this test is just to listen to a number of multichannel audio excerpts. You can relax and enjoy this part of the test. You will be able to get used to the listening room and the loudspeakers. The main experimental goal is to make you more familiar with a broad range of different multichannel recordings. Nowadays, there are no any "correct" or a uniform approach to mixing-down of multichannel recordings. During listening you will find out that different engineers/producers used the rear channels or the centre channel differently. It will demonstrate a real diversity in multichannel recordings. In this demonstration you will use an "Item Pool" (see Fig. 1) – a software multichannel sampler. You may click on different buttons to listen to different sound excerpts. You can find a more detailed description of auditioned items in the Appendix.
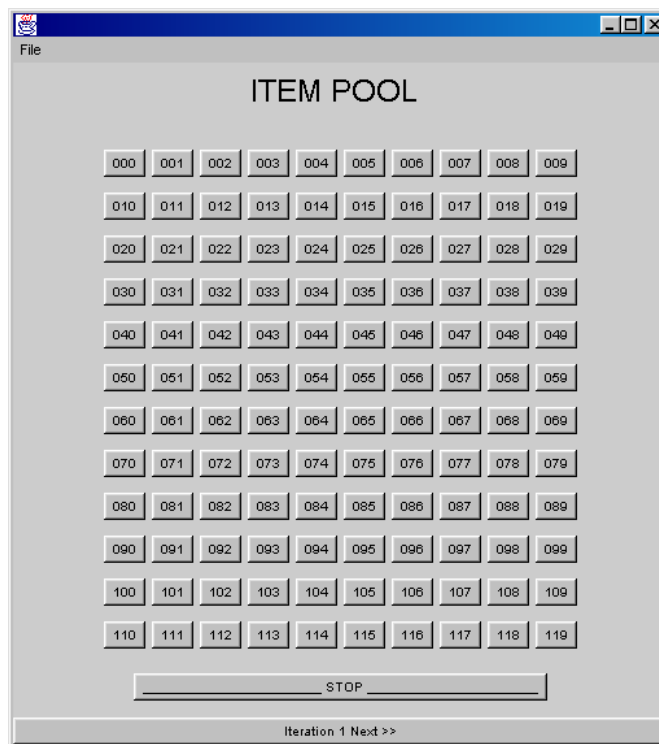

Fig. 1. Item Pool – a software multichannel sampler

2. Familiarisation

The purpose of the familiarisation phase is to allow you, as an evaluator, to become familiar with the sound excerpts under test and their most degraded versions (see Fig. 2). In this phase you are asked to listen to all original items and their most degraded versions ("Processed A" and "Processed B").
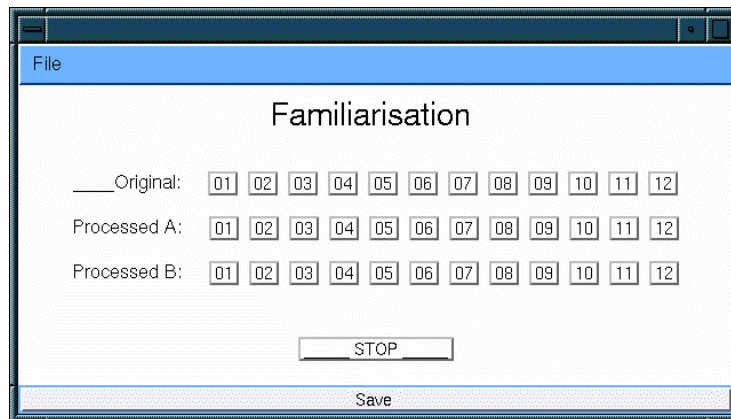

Fig. 2. Exemplary interface during the familiarisation phase

3. Training

This phase is called a training phase and it precedes the true evaluation phase. The purpose of the training phase is to allow you, as an evaluator, to learn how to use the test equipment and the grading scale.

During this phase you are asked to grade a **Basic Audio Quality.**

Basic Audio Quality is defined as the global attribute that describes **any** and **all detected differences** between the reference and the evaluated excerpt. For example, this may include
- differences in timbre,
- differences in spatial characteristic,
- differences in number of active channels,
- balance,
- dynamic range,
- changes in front image,
- changes in localisation of audio sources,
- changes in envelopment,
- occurrence of any type of linear and/or non-linear distortion,
- any kind of noise and distortion,
- distortion caused by compression algorithms,
- phase distortion,
- etc.

You will use the following Quality Scale when assigning your grades:

100	*Excellent*
80	*Good*
60	*Fair*
40	*Poor*
20	*Bad*
0	
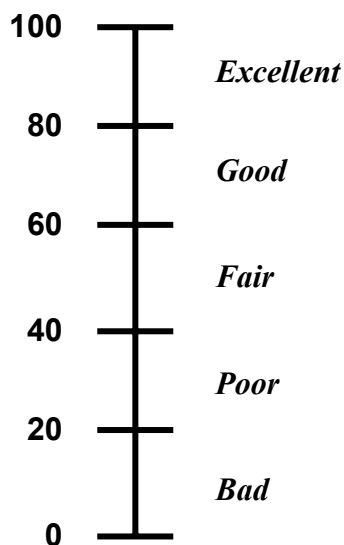
The grading scale is continuous from "Excellent" to "Bad". A grade 0 corresponds to the bottom of the "Bad" category, while a grade 100 corresponds to the top of the "Excellent" category.

In evaluating the sound excerpts, please note that you should not necessarily give a grade in the "Bad" category to the sound excerpt with the lowest quality in the test. However one or more excerpts must be given a grade of 100 because the unprocessed reference signal is included as one of the excerpts to be graded.

The evaluation of the audio quality may depend on the considered application. For example, some excerpts may be graded as "Good" when somebody is listening to the personal hi-fi (e.g. Walkman) or is listening to the audio over the Internet, whereas the same excerpts may be graded as "Bad" when somebody is listening to the DVD-A and as a consequence has higher expectations. In this test you can assume that you are listening to an **'audio-visual home-theatre system' installed in a living room**.

During the training phase you should be able to learn how you, as an individual, interpret the audible impairments in terms of the grading scale. You should not discuss your personal interpretation with the other subjects at any time during the test. Please make **your own interpretation of the scale** and be consistent in your grading. There is no right or wrong answer. Your judgement is the correct answer and you will not be marked on your choices. However, it is expected that your answers should be **consistent** and **repeatable** within consecutive trials.

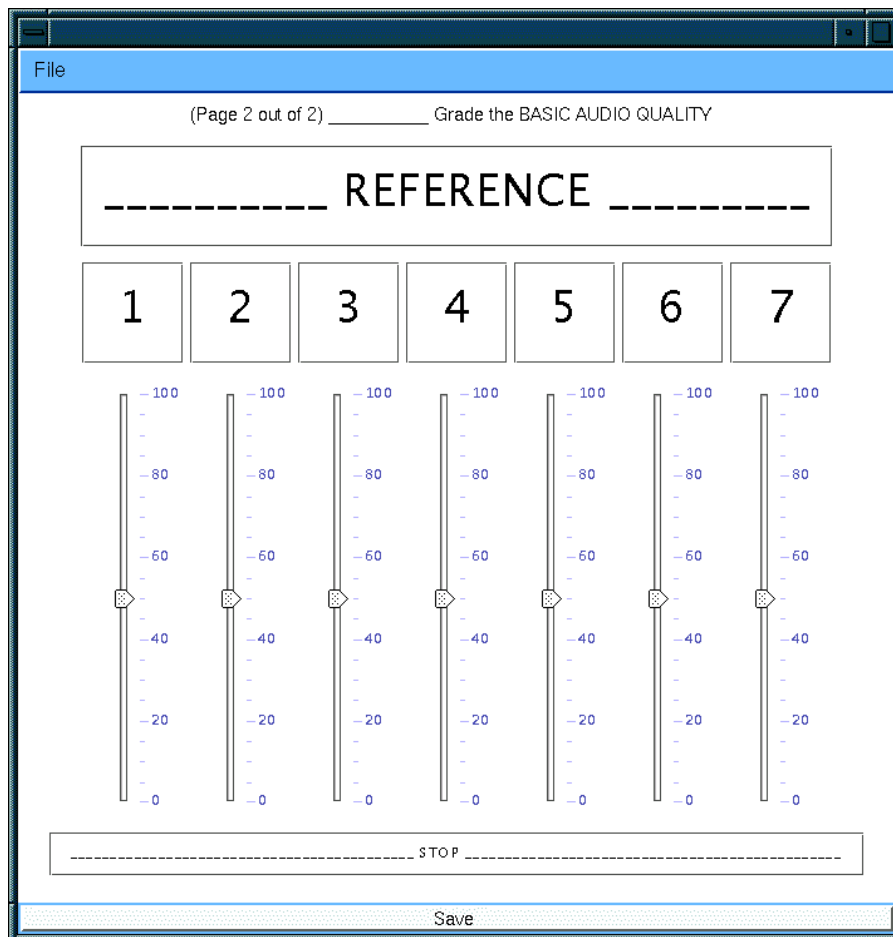No grades given during the training phase will be taken into account in the true tests.

Fig. 3. Exemplary user interface in the listening test

You can switch between the excerpts using either the computer mouse or the keyboard (keys: *1, 2, … 8*, and *r* for the reference). You may listen to the excerpts in any order, any number of times. The audio excerpts are looped. You can stop play back by clicking the **STOP** button. You can switch between the different excerpts while they are played back in order to make quick comparisons.

Technical remarks: 1) Once you have moved on to the next page of the test, please start the playback using the mouse, not the keyboard. Then, you can switch between the excerpts using the keyboard. 2) Be patient - it may take several seconds to move on to each consecutive page (a slow interface).

Use the slider for each excerpt to indicate your opinion of its quality. When you are satisfied with your grading of all excerpts you should click on the button at the bottom of the screen. It will automatically save your scores and will allow you to move on to the next trial.

To recapitulate, you are asked to grade a degree of degradation of the **Basic Audio Quality.**
Basic Audio Quality is defined as the global attribute that describes **any** and **all detected differences** between the reference and the evaluated excerpt. It is important to bear in mind that one or more excerpts should be given the grade 'Excellent' because the hidden reference excerpt is included as one of the excerpts to be graded.

Please feel free to ask any questions, preferably before the test.

Thank you for taking part in this experiment. Enjoy the listening!