PRODUCT DATA

I-deas Jury Evaluation Software: Single Juror Module — BZ-6054, Multiple Juror Module — BZ-6055 and Single Juror Additional Seats Module — BZ-6056

I-deas Jury Evaluation Software is an easy-to-use tool for measuring human responses to sound characteristics. The resulting data can be used to help reduce or eliminate undesirable noises in products and components, or to engineer desirable sound characteristics into them.

Available for use in both individual and group jury evaluations, jury evaluation software lets you control sound characteristics precisely, tally responses and detect errors in real time, and statistically analyse jury responses.

The software incorporates methods most commonly used in jury evaluation into a software environment that allows easy customization and independent development of evaluation and analysis methods.

USES AND FEATURES

USES

- Measurement of human responses to sound characteristics

FEATURES

- Single or multiple juror tests can be controlled and analysed
- Paired comparison method
- Semantic differential method
- Analysis database for all measurements and analyses

Randomised Presentations, Reliable Results

In any investigation of subjective analysis, a large number of jurors are usually required for statistical reliability. Jury evaluation software can provide sound presentations randomised for multiple groups, reducing the time required to conduct the evaluations while preventing flawed responses that can result from using a single sequence of sounds. For evaluations involving single jurors, the order of presentation can be randomised for each participant.

Jury Evaluations Setup and Presentation

The multi-juror version of the software accommodates up to 25 jurors simultaneously, and automatically logs jury voting, including timing and inappropriate responses.

Jurors wear headphones that are connected to the computer's sound output. Each juror has a 20-button keypad for entering responses. The keypads are connected to the computer's keyboard port and can be labeled and programmed to meet your specifications. Jurors vote by pressing specific keys following instructions presented either on a terminal or a projection screen.

During a test, the program collects and stores juror entries. It also reports, in real-time, the performance and errors from the data. Some on-line statistical analysis is performed and displayed on the supervisor's monitor during the test, including a comparison of the current results to previous ones. The supervisor can pause or modify the test during run-time.

Experimental Methods

Jury evaluation software features two built-in standard experimental methods: Paired Comparison and Semantic Differential.

Both types of experiments are supported in both measurement and analysis modules. Significant flexibility is built into these standard modules, allowing you to define an experiment type based on any method of stimulus presentation (sound audition) and juror voting. Variations on the basic methods can be created by modifying the internal scripts in the software. New methods of evaluation can be created using Microsoft® Visual Basic®.

Paired Comparison Method

The Paired Comparison method presents all possible combinations of a set of sounds as pairs and requires jurors to choose between the sounds, based on criteria specified at the beginning of the test, such as “which sound do you prefer?” After all combinations of sounds are evaluated, they may be ranked by merit score, and relationships between preference and metric values can be analysed. Results in the standard analysis of a paired-comparison test can be obtained in terms of:

- Average merit scores plus standard deviation
- Sound ranking
- Correlation of coefficients for significant metrics, including f-test and t-statistics, based on a multiple linear regression on the average residual score for each metric
- Juror performance score (against mean merit score)

Semantic Differential Method

The semantic differential method auditions individual sounds and requires jurors to make selections on a linear scale between one or more pairs of opposing semantic descriptions, such as “loud/soft” or “rough/smooth.”

Results in the standard analysis of a semantic differential test can be obtained in terms of:

- Individual and average score matrices
- “D”-Statistic analysis
- Radial plots of scale results for each sound file

Jury Training Mode for Pre-evaluation Instruction

Jury results are often enhanced by pre-test training. Jury Training Mode enables you to present illustrative examples to focus the jurors' attention, or to present the entire population of sounds to be evaluated for normalisation. This can be followed by a trial vote to ensure that each juror understands the process and votes correctly for an obvious example.

Real-time Monitoring and Editing

You can improve the reliability of your statistical results by setting parameters such as voting delay, incorrect button selection, multiple voting, or premature voting. These parameters enable you to see when jurors have misunderstood instructions and take corrective action during the test. You can pause the evaluation, and repeat or add events, without interrupting the flow of the evaluation.

Real-time Analysis

Real-time functions include a tabular listing of the jurors' performance, as well as a graphical representation of each individual's voting as a function of the deviation from the average vote and response delay.

Experiment Control

The experiment control module is the core of jury evaluation software, allowing you to quickly and easily set up an experiment, select data files, control the sound replay, and synchronise the presentation of instructions. Using the experiment control module, you can monitor jurors' inputs and control the flow of data to the analysis and database program.

Separate Supervisor and Juror Displays

The multi-display capability, provided with any graphics card system supporting multiple monitors under Windows® XP and Windows® 2000, allows you to present PowerPoint® screens to the jurors on one projection surface, while monitoring progress on your own terminal.

Analysis Database Allows You to Keep Track of Multiple Tests

You can set up experiments in project files, which maintain a database of all files used in experiments, and log all measurements and analyses performed, maintaining the traceability of juror results.

The Power of Presentation

The test supervisor provides jurors with instructions through an ActiveX® link to PowerPoint presentations, which are shown on a monitor or projected on a screen. Studies have shown that visual instructions provide optimal juror comprehension and optimal consistency and correlation of juror responses.

Using Microsoft® PowerPoint®, you can include digitised photographs, animations, or even video clips to illustrate your instructions. Jury instruction templates are included for simple plug-and-play capability. You can also edit the templates to create your own instructions with full local language support.

Additional Seats

The Single Juror System can be expanded using the Single Juror Additional Seats module. If more than eight jurors are to use the system simultaneously, then the Multiple Juror module is more economical.

Fig. 1
Example of Single Juror System setup

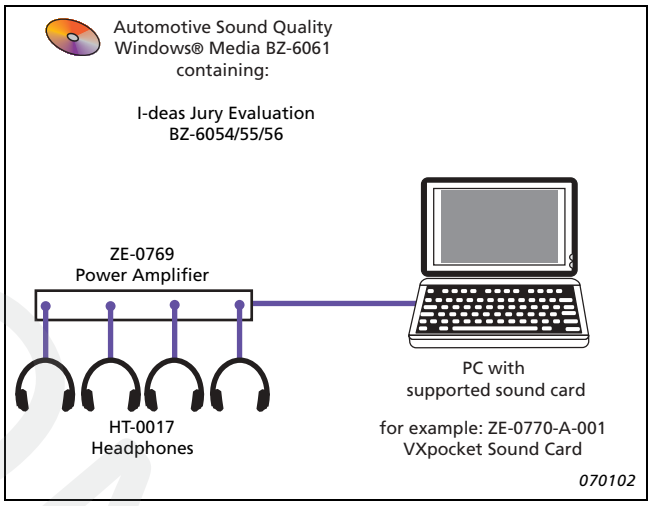
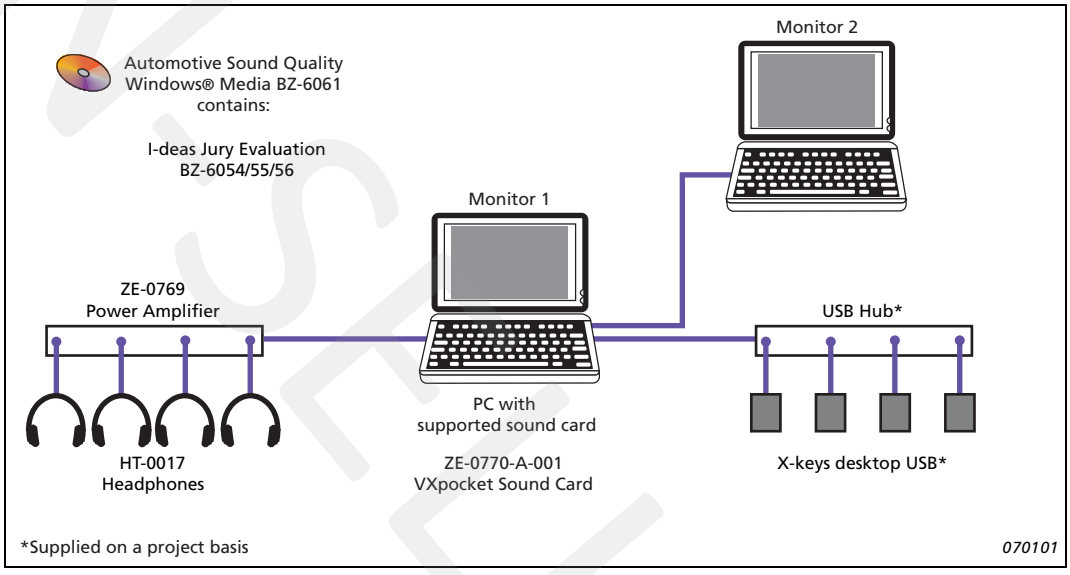


Fig. 2
Example of Multiple Juror System setup



Exporting Your Test Results

Once tests are completed, you can perform an analysis of the data from one or more tests, and export both the analysed data and the raw scores to an Excel workbook. You can also export the data for analysis by other applications such as S-PLUS®, STATISTICA™, and MATLAB®. You can filter the data based on jury responsiveness (early/late voting, multiple key hits), repeatability, or triad test coefficients.

Specifications – I-deas Jury Evaluation Single Juror – BZ-6054, Jury Evaluation Multiple Juror – BZ-6055 and Jury Evaluation Single Juror Additional Seats – BZ-6056

Overview

Jury Evaluation software can be used on a stand-alone basis or in conjunction with other I-deas Automotive Sound Quality software applications . It runs on a Windows® XP and 2000 platform using Visual C++® and Visual Basic®, enabling you to leverage the capabilities of Microsoft® Access™, PowerPoint®, and Excel®

FEATURES

The jury evaluation software modules feature calibrated playback with binaural equalisation, which reproduces the exact spatial sound field in the recording, enabling more realistic evaluations by jurors

Hardware and Software Requirements

- 256 MB RAM or greater
- SVGA compatible monitor with minimum resolution of 1024 × 768 pixels
- Dual-monitor video card (for multiple juror operation)
- Microsoft® Windows® 2000 (Service Pack 3 or better) or Windows® XP Professional (Service Pack optional)
- Microsoft® Office 2000 Professional (Service Pack 2) including Microsoft® Access™, Excel® (with Analysis Toolpack add-in) and PowerPoint®; or Microsoft® Office XP (Service Pack 2)
- Adobe® Acrobat® Reader® v.4.0 or higher (needed to view online documentation)
- Any graphic card system that supports multiple monitors under Windows® XP or 2000. For best results, all monitors should be set to the same screen resolution
- DirectMedia compatible audio device

Ordering Information

BZ-6054-F	I-deas Jury Evaluation Single Juror
BZ-6055-F	I-deas Jury Evaluation Multiple Juror
BZ-6056-F	I-deas Jury Evaluation Single Juror Additional Seats

OPTIONAL SOFTWARE

BZ-6048-F	Automotive SQ Core
BZ-6049-F	Automotive SQ Real-time Filtering
BZ-6050-F	Automotive SQ Metrics
BZ-6051-F	Automotive SQ Designer
BZ-6052-F	Automotive SQ Vold-Kalman Filtering
BZ-6047-F	Automotive Sound Quality Bundle (includes BZ-6048, BZ-6049, BZ-6050 and BZ-6051)

OPTIONAL ACCESSORIES

ZE-0769	Headphone Amplifier, including JP-0352 and 2 × AO-1459[a]
JP-0352	Stereo Jack Plug, Stereo Minijack Adaptor
AO-1459	Monojack Plug, BNC male cable (1 m/3.28 ft)
HT-0017	Sennheiser HD 650 Headphones

SERVICES

M1-6054-F	Annual Software Maintenance and Support Agreement
M1-6055-F	Annual Software Maintenance and Support Agreement
M1-6056-F	Annual Software Maintenance and Support Agreement
M2-6054-F	Annual Software Maintenance and Support Agreement
M2-6055-F	Annual Software Maintenance and Support Agreement
M2-6056-F	Annual Software Maintenance and Support Agreement

a. 110 and 230 V variants available for USA and Europe

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