

EASERA

Electronic and Acoustic System Evaluation and Response Analysis

Developed by
SDA Software Design Ahnert GmbH
Germany, www.sda.de

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EASERA

Electronic & Acoustic System Evaluation & Response Analysis

Universal Measuring Platform

EASERA is an all-new acoustic measurement program developed by Software Design Ahnert GmbH (SDA), a sister company of Acoustic Design Ahnert (ADA), the creator of the world famous EASE acoustic simulation software.

EASERA consists of four independent modules:

- Measurement module
- Signal generator
- Real time analyser
- Post processing module

A fifth module, distributed primarily by Gold Line (www.gold-line.com) implements Time Delay Spectrometry measurement and processing entirely in software.

EASERA provides both data acquisition with a variety of stimulus signals including Time Delay Spectrometry, a sweep, a MLS or a noise excitation signal, and a post processing engine to calculate all acoustic functions or measures according to ISO Standard 3382 and higher.

The real time analyser provides multiple ways to perform a fast on-site analysis or to obtain a precise view of the surrounding acoustic environment.

Although many of these tools are available in one form or another in several products, EASERA is the first to bring them all together in one unified measuring package.

Now, thanks to EASERA, audio professionals can access the best features of all these measurement techniques from a laptop PC with a sound card.

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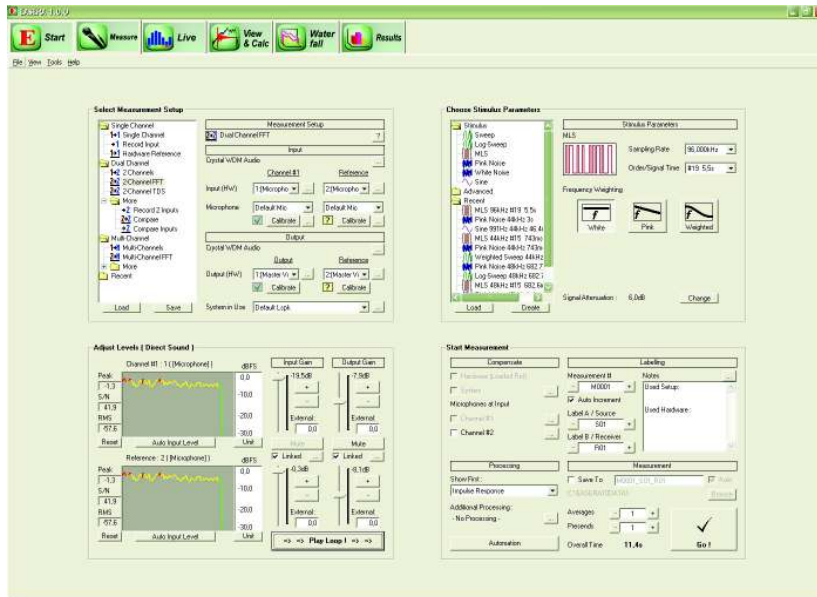


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Sound Software Solutions

MEASUREMENT MODULE



Measurement Signals

- Sweeps (white, pink/log, weighted)
- MLS - Maximal Length Sequence (white, pink, weighted)
- Random noise (white, pink, weighted)
- Sinusoidal signal, impulse and step
- Custom signals, based on WAV file format
- User-defined signals, created with signal generator
- TDS Sweeps (With TDS module)

Supported Hardware

- Supports any PC sound card, preferably a Firewire / USB device
- Time-synchronized input and output clocks are recommended for delay measurements
- Sampling Rates from 8kHz to 192kHz
- Bit resolution hardware-dependent up to 32 bits
- Supports MS Windows Direct Sound, Wave and ASIO drivers
- Variety of hardware selection and calibration possibilities



Measurement Wizard

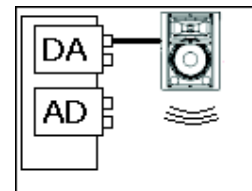
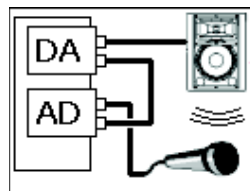
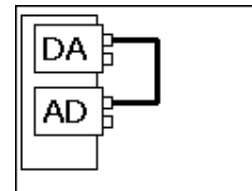
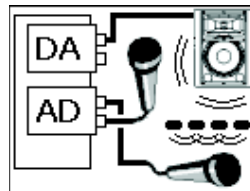
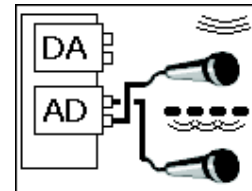
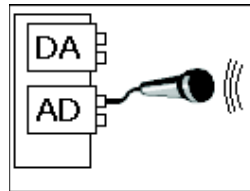
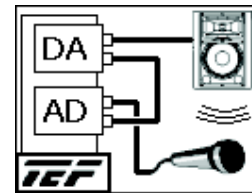
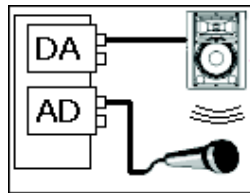
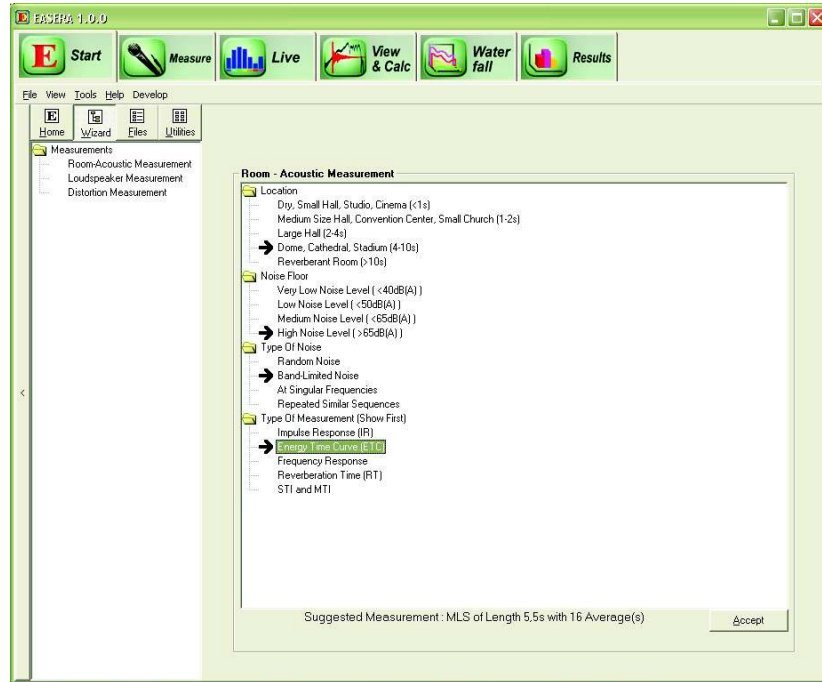
- Choice of type of measurement
- Selection of measuring conditions
- Suggestion for appropriate stimulus signal

Types of Measurements

- Single channel measurement
- Dual Channel FFT
- Reference measurements
- Record mode for use of external sound sources
- Playback mode
- Measurements with up to 32 input channels simultaneously
- Unlimited number of repetitions and averages
- Support of „Presend“-functionality
- Real time signal supply to EASERA allows for so-called source-independent measurements
- Polars and automated measurements

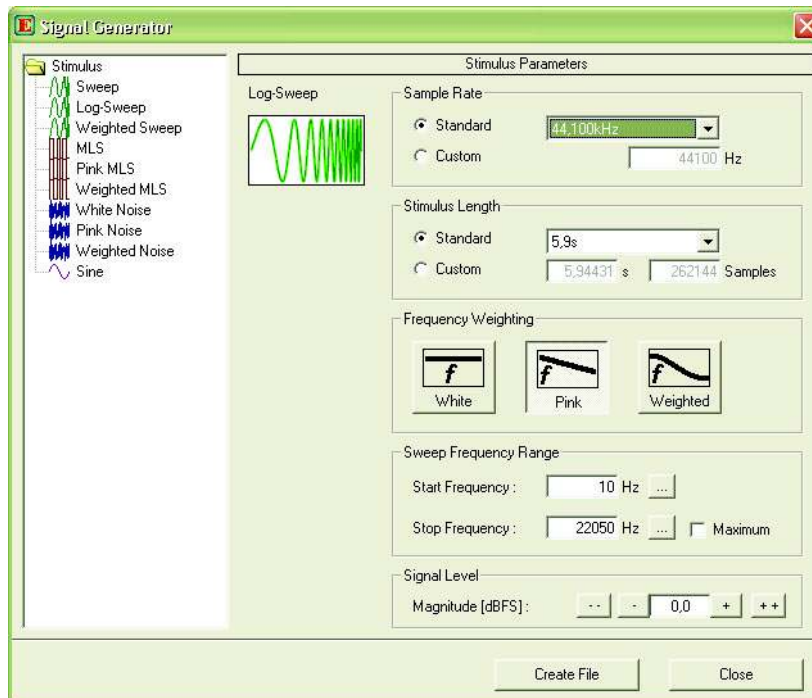
Features

- Calibration for microphone Input, electronic Input an Volume Controls
- Automated input volume control for maximum S/N
- Compensation for hardware frequency response by means of reference measurements, either using the second channel or by measuring it in advance



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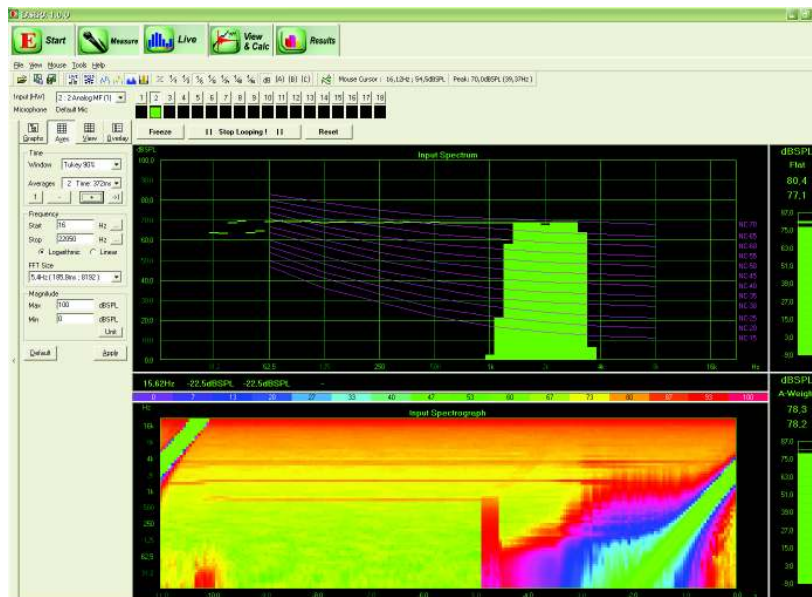
SIGNAL GENERATOR



Supported Functions

- Sweep generation for different parameters, such as start and stop frequency, weighting
- MLS generation, for all orders and with user-defined pre-emphasis
- Random noise, with different weightings
- Sinusoidal signal, impulse and step function creation
- Created files can be saved in a WAV format for measurements or playback

REAL TIME ANALYZER



Supported Functions

- Custom FFT windows and resolution
- Loading and saving of memories
- Event detection and logging
- Different dB-weightings, such as A-weighting etc.
- Various display resolutions, logarithmic or linear
- Tolerance mode

Displays

- Real time level chart
- Transfer function
- Monitoring of up to 32 input channels
- Level meters
- Spectrogram

POST PROCESSING

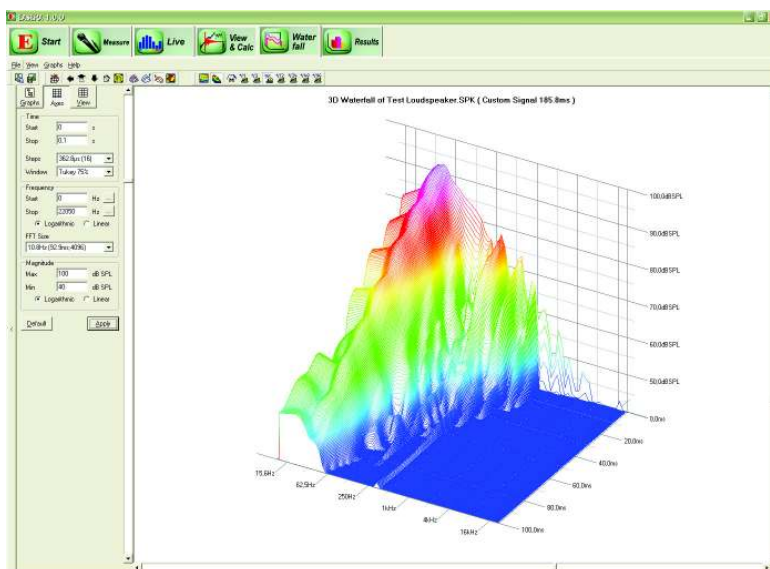
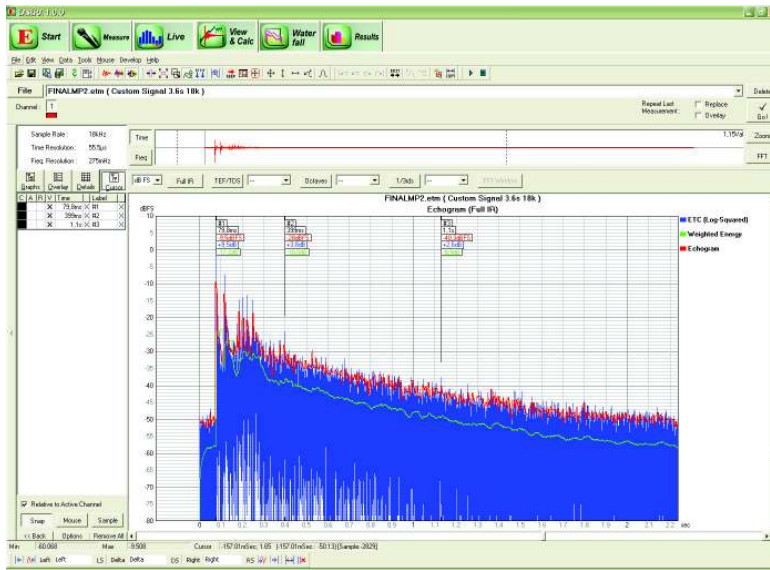
Supported Parameters

- Room - Acoustic Parameters conform to ISO 3382, for example: EDT, T10, T20, T30, Definition, C50, C80, Center Time, MTF calculation and STI, G, ST, IACC, LF / LFC
- Electro-Acoustic Parameters, for example: Direct SPL, Total SPL, L50, Arrival Time, AIcons
- Additional Parameters, such as: RMS, Noise Level, Crest Factor
- Echo criteria: Echo Speech, Echo Music, Echogram


Displays

- Time Domain views: Impulse Response, Energy Time Curve (ETC), Schroeder Integral, Echo Criteria
- Frequency Domain views: Magnitude, Phase, Group Delay, Real Part, Imaginary Part, Smoothings and Averages, Integrals
- Tabular view
- Statistics for result data tables, such as average and standard deviation
- Original measurement data for inspection
- Overlay display to view and manipulate multiple data sets simultaneously





TDS Post Processing
✖



Processing Parameters

Receive Delay [s] : Cursor Max

Bandwidth [Hz] : Best

Equivalent Resolution :

Frequency [Hz] :

Time [s] :

Distance [m] :

Measurement Setup

Start Frequency [Hz] :

Stop Frequency [Hz] :

Sweep Time [s] :

Sweep Rate [Hz/s] :

Ok Cancel

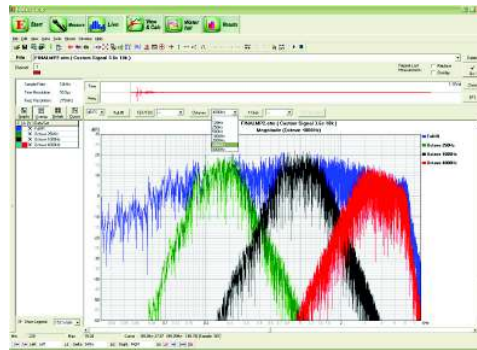
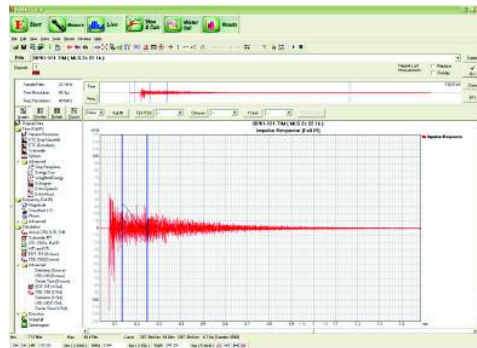
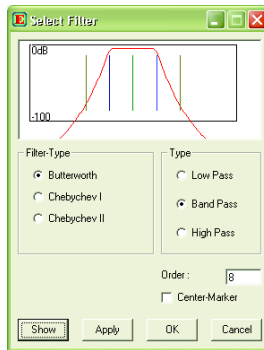
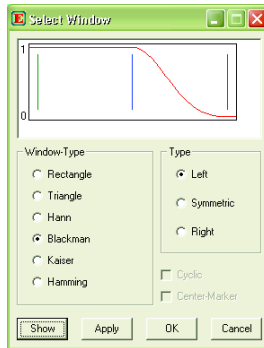
Features

- Interactive cursors to view and compare curves at points of time of frequency
- Number of data sets to be loaded and viewed only limited by PC memory
- FFT block size only limited by PC processing capabilities
- Automated transforms, target-oriented rather than function-oriented user interface
- Octave and Third Octave filters as in IEC 61260
- Noise level calculation and subtraction
- Import and export of data in all common formats, for example WAV, MLSSA, TEF, EASE
- Support of all common electronic and acoustic units for display
- Increased noise immunity resulting from software based TDS tracking filter (With TDS module)
- Real-time wave front measurements

EDITING METHODS

Supported Functions

- User-defined Filters
- User-defined Windows
- Editing of data sets, such as addition or division
- Merging and cutting of files
- Smoothing, Averaging
- All editing steps are stored in editing sequences and can be loaded, saved and re-applied
- Full Undo / Redo support
- Editing sequences for automated processing
- In Situ absorption measurement processing



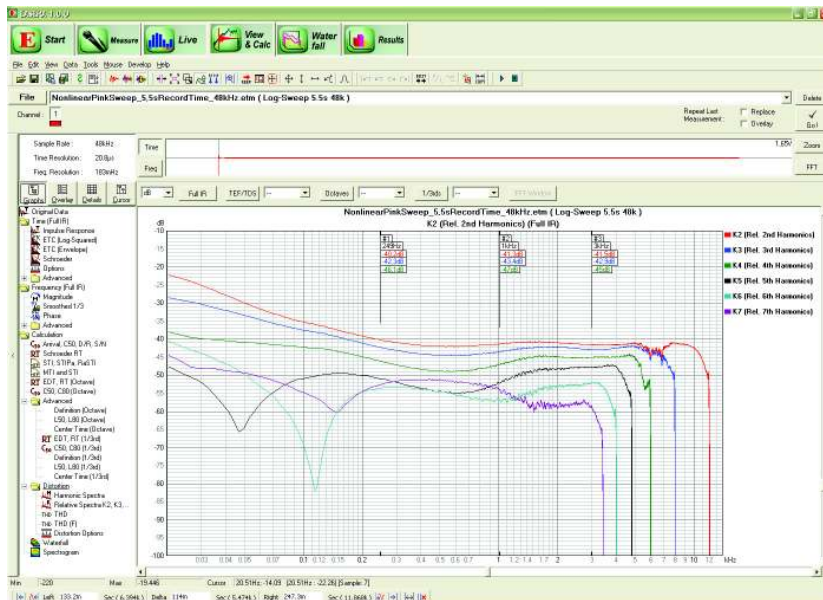
DISTORTION ANALYSIS

Types of Measurements:

- Continuous Log Sweep
- Logarithmic or Linear Resolution
- Custom smoothing and calculation parameters

Features

- THD, THD + N
- THD Spectrum
- Harmonic Spectra
- Relative Spectra



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