Shorting Rings in FINEMotor PRO 2021™

New Features

- Calculation of VC inductance over excursion plus accurate BL(x) in difficult cases.

- The basic Magnet system dimensions are made in FINEMotorPRO. Then various shorting rings and cap can be adaptively specified from the interactive menu below.

- The Scale View shows the actual components before FEM Analysis

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New Features in FINE Motor 2020 PRO ™

& Less expensive FINEMotor Standard 2020

- Twin / Bifilar +Multi-layer Voice Coils (PRO)
- Twin/ Bifilar Voice Coils: Former in Inside / Center / Outside (PRO)
- Edge Wound / **Flat Wire** Voice Coils: 90deg or parallel to VC (PRO)
- Variable Backplate thickness with BL and sensitivity calcs. (PRO)
- BLx curves with 82%, 70% and 50% Xmax limits (Standard)

The "Industry Standard" FINEMotor now comes in 2 versions, both containing 36000 FEA calculations: A Standard and a Pro version. The Pro version has all the features, advanced calculations including oval and square magnetic systems that are most commonly used in the design of micro speakers.

With the Standard version, you still have the opportunity to design all round motors including BLx curves, pole geometry, Multi-layer round/edge wire VC's and Neo motors.

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FINE **R+D X))**™ 2021

New Features

- **New Signal Generator with Pure Sine wave output and user set sweeps.**
- **Signal Generator output both on Amplifier out and Line out.**

The new Signal Generator module will output (play) a pure, very low distortion sine wave, at the speaker output (LS) or on the Line Out. The Line signal is balanced using pins 2 and 3. The default Line level is 100mV, instead of 1V, which could produce >100W using a large power amplifier.

You can select both frequency (Hz) and level (Vrms).
Or you can select a continuous (repeating) sweep. Select start and stop frequency, as well as duration (s) and level (Vrms). Max duration is 2.7s. This sweep is perfect for listening to your speaker.

By selecting a limited range (say 100-500Hz at 2.7s) you get a very detailed sweep, which is ideal for finding small problems.
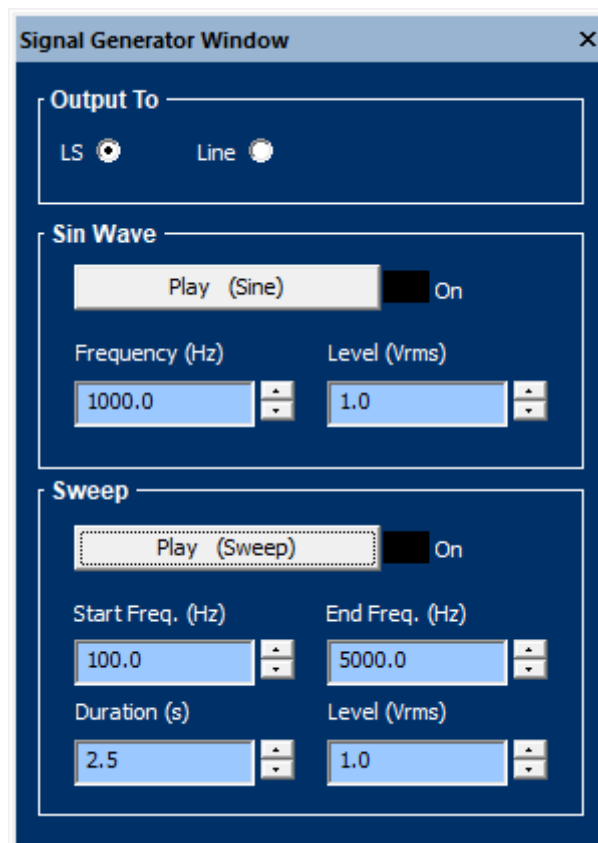
FINE **R+D))**™ 2020

New Features

- **Compensation for room resonances as by National Research Council (NRC), Canada**

- **Export of Normalized curves in LAB and TXT formats**

- **New Multi-Microphone measurements with 3 microphones**

- **Special "Boomerang" 3 microphone array with fixed angles and distances**
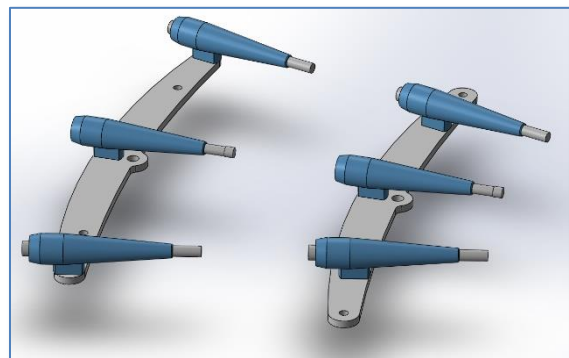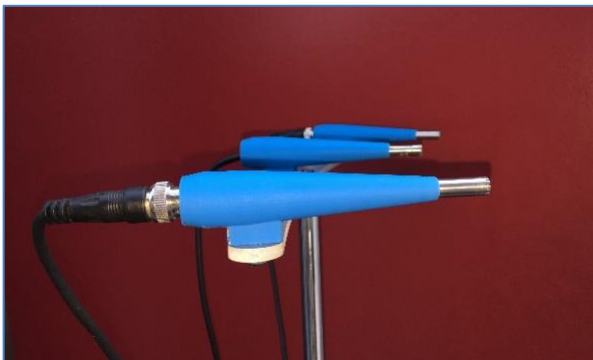

The Multimicrophone Array module for FINE R+D 2020 greatly helps making multiple microphone measurements. You can measure SPL from **3 microphones** simultaneously with **one click.**

This technique is extremely useful for off-axis measurements and multiple measurements of loudspeakers as well as large Professional Arrays.

All curves are easily dragged into the Polar / Contour display for viewing the dispersion or **Sound Power.**

In addition, LOUDSOFT offers the shown 3-microphone array, which combines 3 GRAS microphones into a pre-arranged pattern for different distances and angles. These microphones can be individually configured as for example one 100khz microphone 46BE +2 less expensive 30kHz 1/4in microphones.

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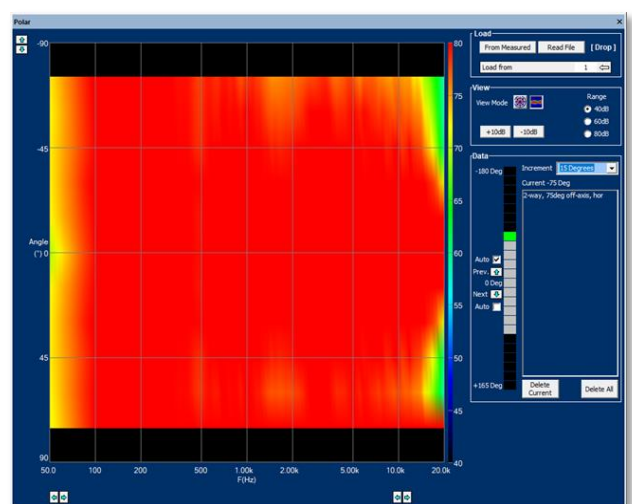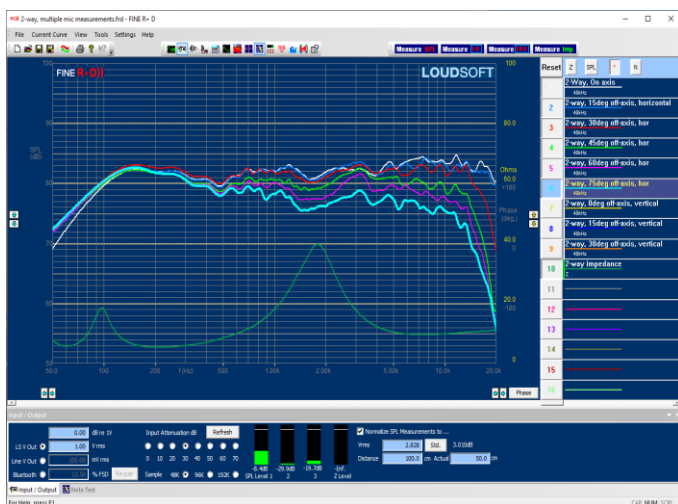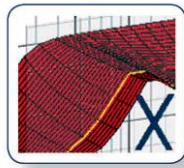
FINEBox™ 2020

New Features

- Design the ideal box for an existing driver
- Design the ideal driver TS parameters for a given Box
- Max Flat Bass Reflex Responses for various TS-parameters
- Save and load TS-parameters as TXT
- Round and Rectangular Ports with Mouse adjustable Width and Height
- Constant Area Circular and Rectangular/Oval Ports
- New ABR / Passive Radiator designer
- Improved line colors and visibility on High-resolution Monitors
- Improved Air Speed accuracy for multiple ports

Reflex Port

Volume 0.103 Litres	End Correction: Normal, Flanged, Simple, Ideal
○ Circular	☑ Rectangul

Chamber Tuning	41.098	Hz
Port Length	5.243	cm
Port Width	6.270	cm
Port Height	3.135	cm
Port Radius	0.150	cm
In Front Box	100.000	%

Passive Radiator (ABR) Parameters

TS Parameters

Free air resonance	Fs	20.000	Hz
Moving mass	Mms	44.000	g
Mechanical Q	Qms	6.000	
Equivalent air volume	Vas	14.955	litres
Effective diaphragm area	Sd	272.000	sq.cm

186.097

All dimensions are in mm

Max SPL (2-5kHz) 103.9dB   Ohms

Max Flat Responses with various TS parameters

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