

SEMINAR INVITATION

Solid assessment of speaker soft parts:

Suspension part testing and membrane modal analysis

General Information

Date: 20th October 2017, 13:00 – 17:00

Location: BEST WESTERN Shenzhen Felicity Hotel; Heping Road No.1085, Shenzhen, China

Presenter: Xiangqiong Zeng (KLIPPEL Engineer)

Language: Chinese

Registration Fee: free of charge

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Abstract

Soft parts (cone, diaphragm, suspension parts) of speakers are the weakest part while developing a transducer. Its performance will change with temperature, humidity, aging and so on. Therefore, it is a key step to understand and assess the soft parts accurately. This seminar provides technical background, an overview on modern soft part measurements and related standards like IEC.

The modern development goal of small and highly efficient transducers (necessarily) requires the exploitation of the non-linear working range while ensuring low distortion and stable operation. Major causes of the final non-linear properties are defined by the used components. Hence not only linear but also non-linear specification of soft parts will be discussed during this seminar.

The benefit for the speaker developer is achieving a stable, reproducible acoustic performance of the final speaker with a minimal number of trials. If the part supplier can provide detailed, reliable specification data to speaker manufacture, it will make communication easier and avoid costly trial and error methods.

At the same time, Simulation like FEA can also speed up the product design. Repetitive and expensive prototyping can be avoided. Key point for development is the material parameters of each soft part (as input data of the simulation). A method to extract material parameter from measurement will be presented in the seminar.

Features

- **SPM – Suspension Part Measurement**
Dynamic RnD method for small and large signal parameter identification of suspension parts up to 8".
- **MSPM – Micro Suspension Part Measurement**
Dynamic RnD method for small and large signal parameter identification of small / micro suspension parts.
- **LST – Linear Suspension Test**
Dynamic QC method for small parameter identification of suspension parts up to 8" in the production environment.
- **MPM – Material Parameter Measurement**
RnD method for measuring Young's E modulus and the loss factor η of the loudspeaker raw materials.
- **SCN – Scanning Vibrometer System**
RnD method for measuring the vibration and geometry of radiators, enclosures and mechanical structures.
- **RMA – Rocking Mode Analysis**
Root-cause analysis of Rocking Modes. Automatic detection of irregular Stiffness, Mass and B-field distribution

Dedicated

To loudspeaker manufacturers and designers from small micro speakers to big professional public address speakers