Electroacoustics

Topics for the test No. 2 (Andrzej Dobrucki & Maurycy Kin)

1. Acoustic waveguide.
2. Acoustic compliance, mass and resistance.
3. Helmholtz resonator.
4. Acoustic resonator with plane wave. Influence of boundary conditions
5. Cuboidal resonator. Frequency space and its application in room acoustics.
6. Acoustic horn.
7. Electro-mechanical and electro-acoustical analogies.
8. Types of electro-mechanical transducers.
9. Principle of operation and construction of the dynamic transducer.
10. Electromagnetic transducer.
11. Electrostatic (condenser) and electret transducer.
12. Piezoelectric transducer
13. Irreversible transducers: piezoresistive and carbon.
14. Microphones with movig coil
15. Electrostatic and electret microphones
16. Microphones with variable polar pattern
17. Dynamic cone loudspeaker – construction and equivalent circuit
18. Constructions of dome and horn loudspeakers
19. Constructions of electromagnetic and moving-coil earphones
20. Linear, nonlinear and intermodulation distortions