Handbook of Engineering Acoustics
Gerhard Müller and Michael Möser, Springer, New York (2013), 690 pages, (including bibliography) + Index, 219 USD, ISBN 978-3-540-24052-5

If one were charged with the task of assembling a world-class symphony orchestra that can perform a broad repertoire of musical works, some general concepts would become immediately evident. Specific sections (strings, woods, brass, percussion, etc.) would have to be planned for in terms of respective sizes, top-level performers would have to be recruited for each section, a general catalogue of works would have to be developed for performances, and the expectations of the audience would have to be considered. All of these responsibilities would typically fall upon the shoulders of the person responsible for the delivery of the final product: the conductor. Creating a handbook that addresses a field as broad as acoustics is akin to the aforementioned task and in this context Gerhard Müller and Michael Möser, as Editors of the *Handbook of Engineering Acoustics*, have achieved results that would bring comparison to what Herbert von Karajan or Sir Georg Solti respectively did for the Berlin Philharmonic or for the Chicago Symphony Orchestra. Their offering is broad in terms of subject matter and deep when it comes to presentation of the topics. The chapters are expertly written with a sense of stylistic balance that brings continuity to the reading and the bibliographies are extensive and current, rooting the present into history. Finally, the book is directed to an audience that can critically appreciate the value of the work in the context of other existing works.

Let's start with the presentation of the book: this is a large tome (10-½″ × 7-¾″) that is a pleasure to go through. It lies flat as the high quality binding and the well-sized gutters both allow for an easy read. The acid-free paper is bright, the printing is crisp, and turning the pages evokes lasting quality. The layout is excellent and the referencing to equations is almost always local, never requiring more than a couple of pages to be turned. Figures and photographs are sharp and appropriately-sized, and with a couple of exceptions the consistency of fonts is found throughout these elements. Even graphs that were (evidently) provided in a color format to the Editors can be read and interpreted with little difficulty. The translation into English is outstanding and even when words like "decentral" are used to refer to "distributed" (in the context of sound systems), or when "tyre" and "tire" are mixed (in the context of road traffic noise) there is nothing to complain about the ease of reading. It took me some time to find a minor mistake (an incomplete reference to a section on page 47) but going back to the symphony orchestra analogy, this would be akin to the conductor dropping his handkerchief during a performance; no big deal when it comes to how the music is being performed or heard by the audience.

Onto the repertoire: The twenty-two (22) chapters are presented in a logical order, starting with Fundamentals (22 pages), and Acoustic Measurements (30 pages), and ending with Ultrasounds (14 pages) and Vibrations (40 pages). In-between the reader will find general-topic entries such as Sound Propagation Outdoors (12 pages), Room Acoustics (30 pages), and more focused entries like Road Traffic Noise (26 pages), Noise and Vibration from Railroad Traffic (96 pages), Aircraft Noise (50 pages), and Construction Noise (18 pages). Chapters with a definite focus on theory are found in Numerical Acoustics (16 pages), Flow Noise (60 pages), while others like Noise Emission Assessment (38 pages), Sound Insulation in Buildings (28 pages), Sound Absorbers (50 pages), and Structure-Borne Sound, Insulation, and Damping (24 pages) are more balanced in terms of theory and practical applications. The same can be said about Silencers (30 pages) as the chapter offers a detailed presentation of a complex topic in a clear and effective fashion. Chapters like Active Control of Sound and Vibrations (34 pages) and Urban Noise Protection (20 pages) benefit from extensive bibliographical references; some are a bit dated but this is to be expected since both topics deal with technology and regulation driven factors that can alter the scope and the value of any study in these field areas. Sound Reinforcement (18 pages) could use substantial editing in order to maintain the depth of presentation found in other chapters and considering the fact that most of the references date back to the 20th century I would suggest a title change to *Fundamentals of Sound Reinforcement* for future editions. The Effect of Sound on Humans (18 pages) chapter does a great job at describing one of the most complex issue that acousticians and noise-control expert have to deal with i.e. perception of sound, but since this topic is continuously undertaking scholarly and industry-driven input the format of the presentation (hardcopy) could benefit from a complement in the digital domain; this being said, the chapter is well-referenced and it adds value to the book. The only chapter that I could not fully understand in terms of belonging to this tome was Sources of Sounds (14 pages) as it seems to cover too many subjects in a fashion that lacks focus: it is clear that the author understands his topics but the presentation lacks the depth found in most other chapters, and in the context of future editions for this reference work

I would suggest integrating the contents of this chapter with that of others.

The word "clarity" resonates through this book as for the most parts the sections work very well with each other, with little repetition of data and no contradiction in findings. Equations are derived as needed rather than as a rule, topics are presented with a balance of theory and applications whenever feasible, and illustrations and graphs are of great assistance to the reader. All in all, and reversing to my earlier analogy, reading the *Handbook of Engineering Acoustics* was akin to listening a great orchestral performance in a fine hall. Maestros Müller and Möser did assemble a cast of expert performers and have created a work of reference that is bound to become a standard for others to meet.

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