

Book Review

Marshall Long, *Architectural Acoustics*, Elsevier, MO, USA, ISBN 0-12-455551-9, 2006 (pp. xxvii + 844).

This is one of those useful ‘compilation’ books which collate information from many other texts, resulting in the typical response to a design office query: “It’s probably in Marshall Long”.

There are similar established reference texts of this type—is another needed? This book adds useful newer work not found in previous compilations, for example the work of Rindel on reflector arrays.

The book begins with a brief but informative introduction into the historical development of the European auditorium. This is followed by useful if derivative ‘Fundamentals of Acoustics’, ‘Human Perception’ and similar chapters. Most of the book contains comprehensive chapters on building acoustics and building services noise control. Principles of Sound Reinforcement Systems are well explained, but DSP controlled line array loudspeaker systems are not covered.

This reviewer decided to analyse in depth the chapter which describes his professional specialisation, namely the Design of Rooms for Music. The chapter covers the fundamentals reasonably well but there appears to be an over-reliance on extracts from work by Beranek (not all of which is accepted by auditorium designers) and Barron. For would-be concert hall designers, the more specialist reference texts by Beranek and Barron themselves, plus Cremer and others, would be more valuable. Some content might mislead—the diagram of plan forms for concert halls includes the fan (!) but not the vineyard. The recommended (after Barron) reverberation time range for opera houses (1.3–1.8 s) is contradicted a few pages earlier by a statement that RT in opera houses is between 1.2 and 1.5 s. (The next chapter contains outdated and potentially misleading guidance on the required volume per seat for different auditoria). The concert halls and opera halls featured are taken straight from Beranek and do not include any Japanese examples.

An associated, up to date and valuable chapter is that on Acoustic modelling, Ray Tracing and Auralization.

A disincentive to European purchasers may be the inconsistency in the provision of metric units and more reference to ANSI than ISO standards. To the European eye the graphics may appear dated and reference to ‘legitimate theater’ a puzzle.

Sometimes this book seems unsure of its purpose and content. Entitled architectural acoustics and starting with an auditorium history it slips into descriptions of environmental sound propagation and the operating principles of microphones.

An omission is the provision of an index of symbols and notation; this should be corrected if a revised edition is published.

Despite the minor limitations noted above, this will be found to be a very useful reference book by industry practitioners and a readable and informative student text. Its main value is painstakingly bringing together much useful data and knowledge from a multitude of reputable sources.

Rob Harris
ArupAcoustics, Parkin House, 8 St Thomas Street, Winchester, Hampshire SO23 9HE, UK
E-mail address: Rob.harris@arup.com