Encyclopedia to remain of value for 10–20 years or more. Purchase also includes access to an on-line version of the *Encyclopedia* for a limited period, including permission to download material for classroom and other uses. The facility will not be available until 2002/3, however.

The acid test concerns who would use the *Encyclopedia* and whether it would meet their needs. Practicing vibrations engineers, experts looking outside their immediate specialism and new and established researchers with some background knowledge of vibrations will all find much valuable material in these volumes. The *Encyclopedia* is enjoyable for casual browsing, and valuable for deeper studies.

In summary, the editors, co-editors and contributors have performed a valuable service and should be congratulated for assembling a work of such substance. At £620/$925 the *Encyclopedia* is not cheap, but provides 1600 pages in a two-column format: a substantial quantity of diverse, high-quality material in one source, that reflects the current state of the science and engineering of mechanical vibrations. The *Encyclopedia* deserves a place in all academic and specialist libraries.

B. R. Mace

Maps — Mechel's Acoustics Program System, 2001, by F. P. Mechel. Stuttgart: S. Hirzel Verlag, Price €2800. ISBN 3-7776-1034-8 (Mac), 3-7776-1111-5 (Win)

This latest addition to the three-volume book on sound absorbers (Schallabsorber by F. P. Mechel, published previously by the Hirzel Verlag) furnishes ready-to-use numerical modules in the Mathematica® language implying that the user needs a license for either Mathematica version 2 or 3/4. Although MAPS was originally written on a Mac, the native language Mathematica is platform independent such that a PC-Windows version is also available. The numerical modules are organized in accordance with the layout of the book. This means that each module — termed notebook in the Mathematica environment — has a number or name corresponding to a chapter and section of the book. For instance, "I Chapter 9.9" refers to Chapter 9, section 9, in Vol. I, treating the radiation impedance. The modules encompass topics from all three volumes of which the first deals with the exterior sound field and its interaction with the absorber, the second treats the interior sound field of the absorber structure and the third handles applications such as flanking transmissions through suspended ceilings or silencers. In all, this means 340 modules totalling roughly 900 programmes. Also included as explicit routines are the necessary mathematical functions involved in the absorber applications. All "notebooks" are neatly structured in the same way beginning with a heading stating the topic and a sub-heading giving the particulars. The heading is followed by a brief description of the object of the notebook with reference to the details in the book. Also included are computational method, formulae and general remarks. After the description comes the "evaluation group" containing the general set-up for Mathematica options, load commands for required Mathematica routines, standard properties of the fluid, defaults for line types and sub-routine declarations. This evaluation group is important and must be executed prior to other computations. Subsequent to the evaluation group are the numerics, computing the output, presenting the output in different ways and establishing blocks in a compound procedure. The numerics generally begin with an "Input" section. Here, the analyst may alter and specify variables and parameters to suit the problem in hand. All MAPS routines are equipped with a default set for the input realizing a template output. Most commonly, the result or the output of a computation is a diagram. This is augmented by some text

revealing ordinate and abscissae as well as pivotal parameters. At the end of a routine is usually shown an output section to identify the input associated with a diagram. This gives a fairly straightforward starting point for beginners with Mathematica and MAPS — simply set the input and run the routine. MAPS is written in an ''open-style'' programming similar to FORTRAN. This allows the user to understand the programme and hence draw from the extensive supply of sub-routines for other purposes. It is, therefore, recommended that some effort is spent on familiarization with Mathematica.

Over a short period, colleagues and myself have tried out the MAPS at the Institute of Technical Acoustics, Technical University of Berlin. Some of the computational results have also found their way into concurrent research. The installation is straightforward on Mac as well as PC platforms but an introductory flow-chart would without doubt be very helpful to get started. The first impression is the somewhat unusual user interface of MAPS with its ''open-style'' programming. This is certainly an advantage to the specialist but for the one-off user it may be bewildering with the bared Mathematica syntax in contrast to some glossy software window. The second observation is undoubtedly the myriad of notebooks contained in the programme system making it literally necessary to consult the three volumes prior to embarking on a numerical odysse\tf = "MacAccR"\accent33 {\tf = "Times"e. Having mastered these two hurdles, however, the application of the package is expedient. In main, the abbreviations for variables and parameters are highly logically denoted and often resemble those in the book albeit knowledge of a few German prepositions is helpful. The speed of the computations is impressive and in spite of creative minds of Ph.D. students, no crash or failure has been experienced — the practicality and costs of the configurations tested better rest in peace. A couple of drawbacks deserve mentioning. The first is the graphics output, which many a time renders difficulties in the interpretation with no legends and unclear line types. Second, the data export to other or post-processing programmes appears somewhat cumbersome in view of the formatting. To a great extent, these drawbacks relate to the implicit Mathematica routines and the most important is ease of exporting. After a while, the open-style programming becomes seductive and one dares to explore the possibilities of altering, modifying and copying to one's needs. As for the book, one may conclude by arguing that the programme system no doubt will prove useful for the specialist practitioner as well as the scientifically orientated.

B. A. T. PETERSSON