B O O K R E V I E W S

BOOKS TO MAKE ELECTRONICS EASY

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People use electronic equipment to help with work, to provide entertainment, and to distribute information, and for a growing range of other purposes. Some knowledge of how electronic derives work is useful to any engineer because it enables him to employ the equipment more effectively, to understand its limitations, and to realise when it is not working as it should. There are many books on the subject of electronics and electronic apparatus, and the University Library has a good selection in section TK. It is well worth exploring there to see if you can find an interesting book that provides what you want. However, there are few 'readable' books that give useful practical details without excessive mathematical theory. Also the subject has changed considerably in the last ten years and many older books that are still available do not give a good guide to present day practice (although this is not always true; some of the books mentioned below are the latest editions of texts that first appeared many years ago). Remember these points when you are looking through the books on the shelves; a volume called something like "Modern Electronics" probably won't help you much if it dates from 1949! The purpose of this note is to mention some readable books of various types, ranging from non-technical reviews to detailed reference textbooks and including several intermediate titles.

An excellent introduction to the whole field of electronics is to be found in "The Age of Electronics". This book comprises nine chapters each written by an authority in a different field, and the first section which traces the history of relevant discoveries is particularly good. Succeeding chapters cover topics such as Communications, Transistors and Computers in a descriptive way and provide a good 'all round' picture. But unfortunately it is not very up-to-date as it was published in 1962. Some other books also give good general introductions to particular applications of electronics. "Words and Waves" is an excellent review of the operation of telephone, radio, and television systems; it treats these subjects from a technical point of view without being very mathematical. "Electronic Computers" is a short book dealing with the topic of computers in a similar way.

Slightly more technical but still readable and interesting is "Foundations of Wireless", which succeeds in describing the detailed operation of electronic devices without introducing too much mathematical analysis. Although the title suggests that this book is concerned mostly with radio circuits this is not so; over half is taken up by very useful material on electrical circuits and transistor operation. This book is unusual because its first edition appeared many years ago, yet each successive edition has been so thoroughly revised that the latest (the eighth) is not at all old-fashioned.

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Another good book which provides an easilty understood introduction to electronics is "Circuits, Devices, and Systems". This includes information on electrical machines and control systems as well, and is written in such a way that the similarities between the theories of electrical and mechanical systems is emphasized.

Of the more conventional textbooks two are particularly useful because of their practical approach; these are "Electronics for Scientists" and "Digital Electronics for Scientists". Again the titles are rather misleading as each is a good general-purpose book. They are rather long but very comprehensive, and each includes full details of practical experiments which will be of interest to anyone considering the subject as a hobby.

The first of these is now a little out-of-date (1963) but is still worth looking at; the second was published more recently (1969).

Finally a few words about more advanced texts which successfully combine theory with some practical data. "Electronics for Engineers" is a fairly short and straightforward textbook; it does not contain much details about applications but does include clear and well written descriptions of transistor theory and of basic circuits. "Electronic Fundamentals and Applications" is not so easy to read but is much more comprehensive; it mentions every major type of electronics system in useful detail and is still one of the best all-round textbooks available. But be sure that you get the latest (fourth) edition; the first was published in 1950 and things have changed a lot since then!

The Age of Electronics (Ed. Overhage) McGraw Hill 1962

Words and Waves* (A.H.W. Bech) World Univ. Library 1967

Electronic Computers*(F.L. Westwater) English Universities Press
Teach Yourself Books.

Foundations of Wireless - 8th edition (M.G. Scroggie) Iliffe

Circuits, Devices and Systems (.R.J. Smith) Wiley.

Electronics for Scientists (Malmstadt,Enke,Toren) Benjamin 1969

Electronic for Engineers* (H. Ahmed and P.J. Spreadbury)
Cambridge University Press 1973.

Electronic Fundamentals and Applications - 4th Edition (J.D. Ryder)
Prentice Hall 1970.

A Dictionary of Electronics (S. Handel) Penguin.

The above books are all in the University Library, except those marked * which are available in the Electrical Department from the British Council Library.

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