

as they are printed on components and gives addresses of the suppliers. All the chapters are profusely illustrated with hand-lettered line drawings of very good quality.

The shortcomings of this book, such as they are, are the inevitable ones associated with the bias of the authors, all of whom have research interests in various spectroscopies and a strong chemistry background. Thus, the section on optics is over 270 pages long and has over 100 pages of manufacturers listings. The vacuum technology chapter, though, is only about 30 pages long and, while it has an excellent discussion of the basics, it ignores evaporation and sputtering—two of the major uses of vacuum technology. The manufacturers' list here is less than a page, not a generous representation for the wide range of equipment available. Similarly, the chapter on charged-particle optics includes sources, lenses, analyzers, and electron multipliers, but does not even mention electron microscopy. Certainly, the scanning electron microscope is beginning to become a familiar laboratory tool and should be discussed. On the other hand, the quality of the 145-page electronics section indicates that the authors had to sort this out for themselves and took care to pass this hard-won knowledge along. They even discuss grounding, shielding and pickup, topics all too often glossed over.

Anyone who has to build or buy scientific apparatus, especially in an unfamiliar field, will find this an invaluable reference.

RICHARD E. HOWARD
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Radiometry and the Detection of Optical Radiation. R. W. Boyd. 254 pp. Wiley, New York, 1983. \$34.95. *reference*

An Introduction to Optical Fibers. A. H. Cherin. 326 pp. McGraw-Hill, New York, 1983. \$34.95

Optical Fiber Communications. G. Keiser. 318 pp. McGraw-Hill, New York, 1983. \$35.00. *reference*

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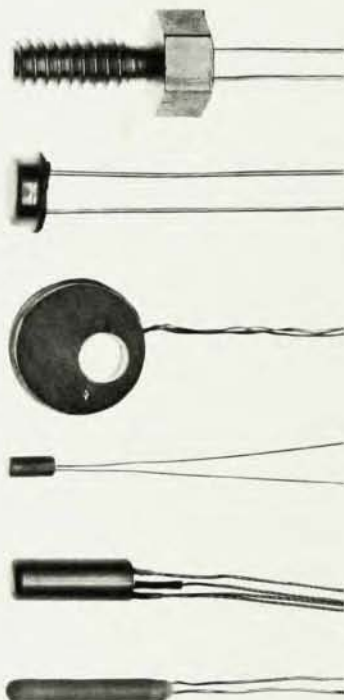
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