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## SENIOR OPTICAL DESIGN ENGINEER

Bell & Howell Company, world's largest manufacturer of motion picture equipment, is seeking a senior optical designer whose creativity and ability to do independent research suit him for his assumption of major design responsibilities. Fundamental requirements are:

**Broad knowledge of physics and mathematics, Ph.D. in either field would be helpful but not required. M.S. degree in either field imperative. At least 10 years experience in the development and design of optical systems and components. Required to implement designs from initial concept to final design. Responsible for originating new optical systems and adapting existing complex systems.**

The Bell & Howell Company is engaged in advanced optical design and basic optical research. Products range from 8 mm motion picture cameras and projectors to equipment requiring the most complex and advanced optical systems. Extensive facilities are available in an atmosphere conducive to independence and creativity.

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cian, very adequately applies these to various practical special cases. The design engineer will find an abundance of useful formulas giving error probabilities or signal-to-noise ratios for many common digital and continuous modulation schemes.

The only major feature of the book this reviewer finds to criticize is its price. The volume contains only 140 pages, photographically reproduced from typewritten copy rather than typeset. Yet the retail price is, surprisingly, \$7.50. Perhaps the high price was set in the fear of a small market; we may only hope that it does not guarantee one.

Better late and expensive than never, however. We may welcome to our bookshelves a book which in 1947 would have been almost revolutionary in its impact on our viewpoint, and which even now will serve us as an outstanding and not entirely familiar reference work.

**Progress in Dielectrics, Volume 1.** Edited by J. B. Birks and J. H. Schulman. 312 pp. John Wiley & Sons, Inc., New York, 1959. \$11.00. *Reviewed by Stuart A. Rice, Institute for the Study of Metals, The University of Chicago.*

**T**HIS volume contains an uneasy mixture of basic science and engineering. The review article by Franklin on the ferroelectricity of barium titanate single crystals is an excellent survey of the phenomenological theory and experiments. This reviewer would have appreciated some treatment of the extant molecular theories, but this comment should not be taken to detract from the utility of the review. As an example of the engineering articles, there is a review by Liao and Plump on gaseous dielectrics containing sections dealing with rotating machinery, transformers, etc. In all, seven reviews appear in this volume. Aside from the two articles cited, there are papers dealing with dielectric breakdown in solid insulation (Mason), dielectric breakdown effects in crystals (Davisson), electric strength and high field conductivity of dielectric liquids (Lewis), nonoxide ceramic dielectrics (Popper), and electrophoretic deposition of insulating materials (Birks). Although there is interesting information in several of the papers, I do not believe the volume will find much use by physicists or chemists.

**Gmelins Handbuch der anorganischen Chemie (8th Revised Ed.).** *Fluorine:* Suppl. to Syst. No. 5; 258 pp.; \$36.00. *Silicon,* Part C. Syst. No. 15; 501 pp.; \$67.44. Verlag Chemie, GmbH, Weinheim, Germany, 1959 and 1958. *Reviewed by H. A. Liebafsky, General Electric Research Laboratory.*

**P**HYSICISTS unacquainted with *Gmelin* can form an impression of this important handbook by scanning the review of the supplementary volume on germanium (*Physics Today*, July 1959, p. 36). As the present volumes show, the virtues of the work continue unabated. The German-English index continues