

**Effects of Noise on Hearing.** D. Henderson, R. P. Hamernik, D. S. Dosanjh, J. H. Mills, eds. 565 pp. Raven, New York, 1976. \$32.00

The essays in this volume represent the fruits of an interdisciplinary symposium (held at Cazenovia College, New York, June 1975) on noise-induced hearing loss. The book appears rather specialized and technical in nature, and many of the 39 contributors have peppered their writing substantially with acronyms and jargon, which may limit it to the *cognoscenti*.

Papers on the demographics of noise pollution and cochlear anatomy and biochemistry precede accounts of hearing-loss studies. One avowed purpose of the symposium was to consider scientific and other factors in the establishment of damage-risk criteria—the last portion of the book focuses on this task.

## new books

### Elementary Particles and Fields

**Pion-Pion Interactions in Particle Physics.** B. R. Martin, D. Morgan, G. Shaw. 460 pp. Academic, London, 1976. \$40.50

**Relativität, Gruppen, Teilchen: Spezielle Relativitätstheorie als Grundlage der Feld- und Teilchenphysik.** R.U. Sexl, H.K. Urbantke. 301 pp. Springer-Verlag, Vienna, 1976. DM 58.00

**General Relativity and Gravitation** (Proc. of the Seventh Int. Conf., Tel-Aviv University, Israel, June 1974). G. Shaviv, J. Rosen, eds. 344 pp. Halsted, New York, 1976. \$38.50

### Nuclei, Nuclear Physics

**Nuclear and Particle Physics at Intermediate Energies** (Lectures presented at Brentwood Summer Institute, Brentwood College, Victoria, Canada, June-July 1975). J. B. Warren, ed. 608 pp. Plenum, New York, 1976. \$49.50

### Atoms and Molecules

**Vibrational States.** S. Califano. 335 pp. Wiley, New York, 1976. \$39.95

**Beam-Foil Spectroscopy, Vol. 1: Atomic Structure and Lifetimes, and Vol. 2: Collisional and Radiative Processes.** I. A. Sellin, D. J. Pegg, eds. 987 pp. Plenum, New York, 1976. \$45.00 each volume

### Chemical Physics

**Treatise on Solid State Chemistry, Vols. 6A and 6B: Surfaces 1 and 2.** N. B. Hannay, ed. 491 and 418 pp., respectively. Plenum, New York, 1976. \$45.00 each volume

### Acoustics

**Effects of Noise on Hearing.** D. Henderson, R. P. Hamernik, D. S. Dosanjh, J. H. Mills, eds. 565 pp. Raven, New York, 1976. \$32.00

**Mechanisms of Speech Recognition** (Int. Series in Natural Philosophy, Vol. 85). W. A. Ainsworth. 139 pp. Pergamon, Oxford, 1976. \$16.00 clothbound, \$10.00 paperbound

**L'acousto-optique.** J. Sapiel. 114 pp. Masson, Paris, 1976. 78.00 F

**Ultrasonic Biophysics** (Benchmark Papers in Acoustics, Vol. 7). F. Dunn, W. D. O'Brien Jr, eds. 410 pp. Dowden, Hutchinson and Ross, Stroudsburg, Pa., 1976. \$30.00

### Heat, Thermodynamics, Statistical Physics

**Applications de la Thermodynamique de non-équilibre: Bases D'énergétique Pratique.** P. Chartier, M. Gross, K. S. Siegler. 191 pp. Hermann, Paris, 1975. 78.00 F

**Equilibrium Thermodynamics, 2nd edition.** C. J. Adkins. 284 pp. McGraw-Hill, New York, 1975. \$7.95

**Statistical Mechanics.** D. A. McQuarrie. 641 pp. Harper and Row, New York, 1976. \$29.95

**Thermodynamic Equilibria of Boiling Mixtures** (Landolt-Börnstein Numerical Data and Functional Relationships in Science and Technology, Vol. 3—New Series). J. Weishaup (H. Hausen, ed.). 376 pp. Springer-Verlag, Berlin, 1975. \$131.20

**Thermodynamic Theory of Domain Structures.** I. Privorotskii. 129 pp. Halsted, New York, 1976. \$22.50

**Modern Theory of Critical Phenomena** (Frontiers in Physics, Vol. 46). S-K. Ma. 561 pp. W. A. Benjamin, Reading, Mass., 1976. \$24.50 clothbound, \$14.50 paperbound

**Topics in Statistical Mechanics and Biophysics: A Memorial to Julius L. Jackson** (AIP Conference Proceedings, Vol. 27). R. A. Piccirelli, ed. 209 pp. AIP, New York, 1976. \$17.00

**Theory and Application of the Boltzmann Equation.** C. Cercignani. 415 pp. Elsevier, New York, 1976. \$35.00

### Energy

**Energy and Environment: A Primer for Scientists and Engineers.** E. H. Thorndike. 286 pp. Addison-Wesley, Reading, Mass., 1976.

**Energy, Vol. 2: Non-nuclear Energy Technologies.** S. S. Penner, L. Icerman. 673 pp. Addison-Wesley, Reading, Mass., 1975. \$19.50 clothbound, \$13.50 paperbound

**Energy: The Solar-Hydrogen Alternative.** J. O'M. Bockris. 365 pp. Halsted, New York, 1976. \$27.50

**Energy: Mathematics and Models** (Proc. of a Conf., Alta, Utah, July 1975). F. S. Roberts, ed. 276 pp. Society for Industrial and Applied Mathematics, Philadelphia, 1976. \$16.00

### Student Texts

**Solid State Physics.** N. W. Ashcroft, N. D. Mermin. 826 pp. Holt, Rinehart and Winston, New York, 1976. \$19.95

**Problems in Physical Chemistry.** I. M. Ritchie, R. A. Craig, P. J. Thistlethwaite. 170 pp. Wiley, New York, 1976. \$7.95

**Almost All About Waves.** J. R. Pierce. 213 pp. MIT, Cambridge, Mass., 1974. \$3.95

**SEE FOR YOURSELF!**  
with the multi-use  
**FIND-R-SCOPE**  
**INFRARED VIEWER!**



Other models and accessories available

**\$490<sup>00</sup>**

■ Observe film processing ■ Detect possible forgeries & retouchings in art, currency & documents ■ Nocturnal observation of animals ■ View LED patterns ■ Collimate lasers in near IR ■ Detect mineral deposits through over flights ■ Observe tissue & cells ■ Infrared microscopy ■ View pupillary activity ■ Can eliminate need for IR photography. Send for details

**FJW INDUSTRIES**

219 East Prospect Avenue  
Mt. Prospect, Ill. 60056 ■ 312/259-8100  
Circle No. 49 on Reader Service Card

OPTICS FOR INDUSTRY  
**interference-  
filters and  
neutral  
density  
filters**

**contact Rolyn Optics**

P.O. Box 148,  
Arcadia, Calif.

**91006**

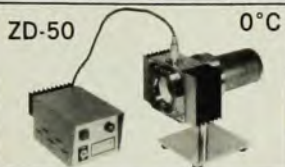
(213) 447-3200

(213) 447-4982

Circle No. 50 on Reader Service Card



## ADVANCED DESIGN COOLED HOUSINGS FOR PHOTOMULTIPLIERS

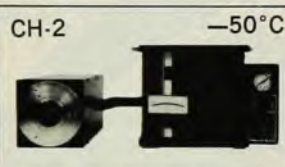


Each of these EMI Gencom cooled housings provides RFI shielding for photon counting, improved signal to noise ratio, and stable environment for data acquisition.

Convection cooled thermoelectric cooler maintains 0°C (22° ambient) with unattended operation.



Forced air-cooled to -30°C with 20° ambient. Temperature can be preset and controlled to  $\pm 0.5^\circ\text{C}$ . Dew-free without additional equipment.



Maintains temperatures to -50°C with  $\pm 1^\circ\text{C}$  accuracy. Model CH-25 to  $\pm 0.5^\circ\text{C}$ . These housings are especially desirable for use with S-20 and S-1 tubes.

All coolers are complete with power supply, RFI shielding, thermal window and mounting flange. FACT-50 and CH-2 complete with temperature controllers.

When you order a PMT and cooled housing, your tube is tested under actual operating conditions, and test data is furnished.



**EMI GENCOM INC.**

80 Express St., Plainview, N.Y. 11803  
(516) 433-5900, TWX 510-221-1889

Circle No. 27 on Reader Service Card

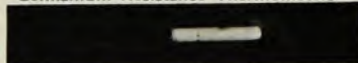
## The backbone of All accurate temperature systems begins with a Scientific Instrument sensor. The small investment that produces the Biggest Result

*Sensors from S.I. are still the best buy.*

All Temperature Ranges from .05 K to 811 K (-460°F to 1000°F)



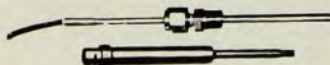
Germanium Resistance Thermometers



Platinum Resistance Thermometers



Thermocouples



Probes



Special Configurations

Get the facts, then specify . . .

**SCIENTIFIC INSTRUMENTS, INC.**

632 South F Street Lake Worth, Florida 33460  
Telephone 305 / 585-9451



Circle No. 79 on Reader Service Card

**Man and the Physical Universe.** E. E. Snyder. 373 pp. Merrill, Columbus, 1976. \$13.95

**Introduction to Solid State Physics, 5th edition.** C. Kittel. 599 pp. Wiley, New York, 1976. \$19.95

**Quantum Theory of the Solid State, student edition.** J. Callaway. 830 pp. Academic, New York, 1976. \$19.50

**Einführung in die Festkörperphysik.** K.-H. Hellwege. 640 pp. Springer-Verlag, Berlin, 1976. \$27.90

**The Universe.** D. Goldsmith. 416 pp. W. A. Benjamin, Menlo Park, Cal., 1976. \$12.50

**Eigenwerttheorie gewöhnlicher Differentialgleichungen.** K. Jörgens, F. Rellich. 227 pp. Springer-Verlag, Berlin, 1976. \$11.50

**Energy: Conversion and Utilization.** J. H. Krenz. 359 pp. Allyn and Bacon, Boston, 1976.

**Physical Science with Modern Applications.** M. Merken. 699 pp. W. B. Saunders, Philadelphia, 1976. \$15.95 (Also available: accompanying *Student's Guide*. M. V. Barnhill III. 212 pp. \$4.95)

**Fundamentals of Waves, Optics, and Modern Physics, 2nd edition.** H. D. Young. 549 pp. McGraw-Hill, New York, 1975. \$14.95

**Supersensonic: The Science of Radiational Paraphysics, Vol. 3.** C. Hills. 607 pp. University of the Trees Press, Boulder Creek, Calif., 1975. \$15.00

**Continuum Mechanics: Concise Theory and Problems.** P. Chadwick. 174 pp. Halsted, New York, 1976. \$12.50

**University Physics, 5th edition.** F. W. Sears, M. W. Zemansky, H. D. Young. 811 pp. Addison-Wesley, Reading, Mass., 1976. \$16.95

**The Fourth Kingdom.** W. J. Sauber. 118 pp. Aquari, Midland, Mich., 1975. \$6.95

**Basic Electricity.** C. W. Ryan. 280 pp. Wiley, New York, 1976. \$5.95

**Electronics for Scientists and Engineers, 2nd edition.** R. R. Benedict. 605 pp. Prentice-Hall, Englewood Cliffs, N.J., 1976. \$16.95

**Physics for People Who Think They Don't Like Physics.** J. S. Faughn, K. F. Kuhn. 570 pp. W. B. Saunders, Philadelphia, 1976. \$14.95

### History and Philosophy

**Man and Water: A History of Hydro-Technology.** N. Smith. 239 pp. Scribner's, New York, 1976. \$12.95

**Adventures of a Mathematician.** S. M. Ulam. 317 pp. Scribner's, New York, 1976. \$14.95

**The Concepts of Space and Time** (Boston Studies in the Philosophy of Science, Vol. 22). M. Čapek, ed. 570 pp. D. Reidel, Dordrecht, Holland, 1975. \$58.00

**A History of Engineering and Science in the Bell System: The Early Years (1875-1925).** M. D. Fagen, ed. 1073 pp. Bell Telephone Laboratories, Murray Hill, N.J., 1975. \$15.00

**The Pursuit of Knowledge in the Early American Republic: American Scientific and Learned Societies from Colonial Times**



# OSLO

## A Program for Optical System Layout Using the HP-9815 Calculator

### FEATURES

- Versatile Lens Input
- Internal Lens Library
- Internal Glass Catalog
- Exact Ray Tracing
- Damped-Least-Squares Optimization

OSLO accomplishes many of the optical design tasks that were formerly carried out on big computers. It provides an easy-to-use, interactive-design capability, with no running cost. For further information and technical data, write or call Sinclair Optics, Inc., 642 Kreag Road, Pittsford, NY 14534. Telephone (716) 385-4855.

## S Sinclair Optics

Circle No. 52 on Reader Service Card

## YOUR SOURCE FOR OPTICS

- Optics and Windows in fused quartz, glass and sapphire
- Prototype and production capabilities
- Commercial and precision finishes
- Many catalog items in stock

including LENSES, MIRRORS, WINDOWS, BEAM SPLITTERS, PRISMS, FILTERS & OPTICAL FLATS. Specialists in finishing glass and quartz to all sizes and shapes.



Free catalog on request

## ESCO PRODUCTS

171 Oak Ridge Rd., Oak Ridge, N.J.  
(201) 697-3700 07438

Circle No. 54 on Reader Service Card

to the Civil War. A. Oleson, S. C. Brown, eds. 372 pp. Johns Hopkins U. P., Baltimore, 1976. \$16.50

**Theories of Vision from Al-Kindi to Kepler.** D. C. Lindberg. 324 pp. Chicago U.P., Chicago, 1976. \$20.00

**Vistas in Physical Reality: Festschrift for Henry Margenau.** E. Laszlo, E. B. Sellon, eds. 228 pp. Plenum, New York, 1976. \$25.00

### Science and Government

**The Liquid Metal Fast Breeder Reactor: An Economic Analysis.** B. G. Chow. 76 pp. American Enterprise Institute for Public Policy Research, Washington, D.C., 1975. \$3.00

**Nuclear Fuels Policy: Report of the Atlantic Council's Nuclear Fuels Policy Working Group.** 137 pp. Atlantic Council, 1616 H St. N.W., Washington, D.C., 1976. \$4.50

**Air Pollution: Threat and Response.** D. A. Lynn. 388 pp. Addison-Wesley, Reading, Mass., 1976. \$8.95

**The Force of Knowledge: The Scientific Dimension of Society.** J. Ziman. 374 pp. Cambridge U. P., New York, 1976. \$15.95

**Nuclear Explosions and Earthquakes: The Parted Veil.** B. A. Bolt. 309 pp. W. H. Freeman, San Francisco, 1976. \$9.95

**The World's Climate and Man's Future: Forecasts, Famines, and Freezes.** J. Gribbin. 132 pp. Walker, New York, 1976. \$8.95

**Of Acceptable Risk: Science and the Determination of Safety.** W. W. Lowrance. 180 pp. Kaufmann, Los Altos, Calif., 1976. \$8.95 clothbound, \$4.95 paperbound

**Licensing and Regulatory Control of Nuclear Installations** (Papers presented at the Regional Seminar in Nuclear Law for Latin American Countries, Rio de Janeiro, June 1973). 313 pp. International Atomic Energy Agency, Vienna, 1975. \$19.00

**Power Reactors in Member States, 1975 edition.** 60 pp. International Atomic Energy Agency, Vienna, 1975. \$5.00

### Popularizations

**Noise, Noise, Noise.** J. Grey. 104 pp. Westminster, Philadelphia, 1976. \$6.50 clothbound, \$4.50 paperbound

**Synergetics: Explorations in the Geometry of Thinking.** R. B. Fuller. 876 pp. Macmillan, New York, 1975. \$25.00

### Miscellany

**Atomic Masses and Fundamental Constants, Vol. 5** (Proc. of the 5th Int. Conf. on the same, Paris, June 1975). J. H. Sanders, A. H. Wapstra, eds. 681 pp. Plenum, New York, 1976. \$42.00

**Copyright—Information Technology—Public Policy, Part 2: Public Policies—Information Technology.** N. Henry. 166 pp. Marcel Dekker, New York, 1976. \$14.50

**Physics and Our World: A Symposium in Honor of Victor F. Weisskopf** (AIP Conf. Proc., Vol. 28). K. Huang, ed. 164 pp. American Institute of Physics, New York, 1976. \$15.00 □

**It's NEW  
from Varian**

## Porta-Test™ "In a Cart" Helium Leak Detector

- No LN<sub>2</sub> needed.
- Fast performance at high test-port pressure.
- Excellent sensitivity. Up to 10<sup>-10</sup> std. cc/sec.
- Mechanical pump included.
- Roll-around portability.

Write for data and low price.  
Varian Vacuum Division,  
Palo Alto, CA 94303.



**THE INNOVATIONS IN LEAK DETECTION  
ARE COMING FROM VARIAN**  
Circle No. 69 on Reader Service Card