

### WISHING...for one dependable source for research biochemicals?

Let NUTRITIONAL BIOCHEMICALS CORPORATION be the one answer to all your problems of quality, service, and economy in the biochemical field.

- OVER 200 AMINO ACIDS
- OVER 75 PEPTIDES
  - MISCELLANEOUS BIOCHEMICALS
  - · VITAMINS
  - . ENZYMES
  - . GROWTH FACTORS
- . OVER 200 NUCLEOPROTEINS. PURINES, PYRIMIDINES
- . STEROID HORMONES
- . BIOLOGICAL SALT
- BIOLOGICAL TEST MATERIALS



#### NUTRITIONAL BIOCHEMICALS CORPORATION

21010 Miles Avenue . . . Cleveland 28, Obio

Write For New Catalog October 1957 Over 1700 Items Write Dept. 102

# IF YOU WORK WITH

AVOID ... FUSSING TIME ... TINKERING TIME ... POOR PERFORMANCE ... OPERATING DIFFICULTIES

Satisfactory design and profitable operation of high vacuum equipment require specialized knowledge and components. Even if you're already a vacuum expert, you can avoid lengthy study, tedious calculations, and costly pitfalls by asking for the assistance of NRC vacuum specialists. That's the quick, sure, nocost way to assure that you benefit from the lessons learned in thousands of vacuum installations.

NRC Equipment Corporation is your one convenient source for service-proved components, equipment, and systems especially designed for high vacuum service, PLUS technical help in selecting the items which will best suit your own



ONE SOURCE FOR ALL HIGH VACUUM

#### COMPONENTS

Baffles Cold traps Connectors Filters

Gaskets
\*Gauges
\*Leak detectors
Seals
\*Valves

#### **PUMPS**

- \*\*Diffusion \*Mechanical \*Mechanical
- booster

#### EQUIPMENT

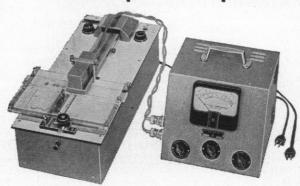
Altitude chambers \*Coaters

- \*\*Crystal pullers Exhaust systems \*\*Furnaces
- Impregnators Freeze Driers
- \*New literature available
- \*\*New literature under preparation

A Subsidiary of National Research Corporation Dept. 25-N, CHARLEMONT ST., NEWTON, MASS.

## PHOTOVOLT Densitometer

for Partition Chromatography and Paper Electrophoresis



A photoelectric precision instrument for the rapid and convenient evaluation of strips and sheets of filter paper in partition chromatography and paper electrophoresis.

Write for Bulletin #800 to

### PHOTOVOLT CORP.

95 Madison Avenue

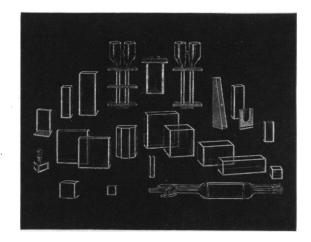
Colorimeters Nephelometers

Reflection Meters Glossmeters

**Electronic Photometers Multiplier Photometers** Interference Filters

New York 16, N. Y.

**GLASS ABSORPTION CELLS** made by



Makers of Complete Electrophoresus Apparatus

- SCIENTIFIC APPARATUS Klett-Summerson Photoelectric Colorimeters— Colorimeters— Nephelometers— Fluorimeters— Bio-Colorimeters— Comparators— Glass Stand-ards—Klett Reagents.

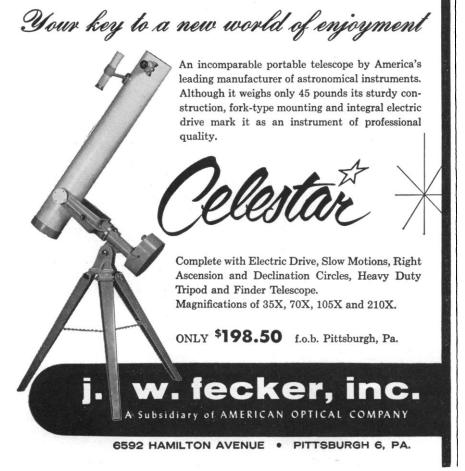
Klett Manufacturing Co. 179 East 87 Street, New York, New York

### **EQUIPMENT NEWS**

The information reported here is obtained from manufacturers and from other sources considered to be reliable. Science does not assume responsibility for the accuracy of the information. All inquiries concerning items listed should be addressed to Science, Room 740, 11 W. 42 St., New York 36, N.Y. Include the name(s) of the manufacturer(s) and the department number(s).

- FREQUENCY CONVERTER furnishes 75 w of 1200- or 2400-cy/sec power. Input power is 95 w at 400 cy/sec, three-phase. Frequency multiplication of the 400-cy input provides synchronization of the output wave. The device is transistorized for compactness and lightness. Weight is 2.5 lb. Regulation is 3 percent from no load to full load. Rise time is 5 µsec. (Robertshaw-Fulton Controls Co., Dept. S818)
- INTEGRATOR for gas and vapor-phase chromatography is available as part of original equipment or for use with a separate recorder. Integration is performed electrically. Indication is made by means of pen strokes at the margin of the chart. Three line lengths indicate units, tens, and hundreds. At full-scale deflection, 40 lines are recorded per second. (Burrell Corporation, Dept. S826)

- AMPLIFIER SYSTEM is a seven-channel a-c voltage preamplifier for piezoelectric transducers. Voltage gains are 1.0 and 10.0. Input impedance is 100 megohm with bandwidth 0.4 to 200,000 cy/sec. Each channel has its own isolated power supply. (Dynamics Instrumentation Co., Dept. S833)
- FLOW SWITCH will detect flows in the range from ½ to ½ gal/min and provide circuit closure for indication or control. The transducer will operate in any attitude. Normal temperature operating range is −85° to +550°F. Reverse flow can also be detected. The instrument is supplied in aluminum, stainless steel, bronze, nickel, Monel, Inconel, or other metals. (Potter Aeronautical Corp., Dept. S839)
- WATER DETECTOR for crude oil can be used also to detect and control other constituents which affect the dielectric constant of a process material. The fixed dielectric-constant capacitor probe is sensitive to variations of 0.1 percent. Water content is indicated by pilot lights, and signals are transmitted to a control unit which actuates valves to reroute contaminated material. Time delays may be set so that momentary variations are ignored. (Instruments, Inc., Dept. S830)
- IONIZATION GAGE of the Bayard-Alpert type is linear through a range from  $5 \times 10^{-4}$  to  $10^{-12}$  mm-Hg. A double filament is used for long tube life, and the grid can be outgassed by electron bombardment. The collector, a single wire enclosed in a spiral grid, is small enough to be outgassed by radiant heat. The Nonex-glass envelope has a half-inch-diameter tubulation provided with a graded Nonex-to-Pyrex seal. (Consolidated Electrodynamics Corp., Dept. S832)
- KERR-CELL SHUTTER, designed to be mounted on a camera, has an aperture 1.25 by 2.0 in. Speeds are as great as 0.1 µsec, and triggering can be synchronized to within 2 mµ-sec. Electronic controls are contained in a modulator unit which can be remotely located and connected by flexible leads. The triggering pulse can be as low as 50 v. (Electro-Optical Instruments, Inc., Dept. S829)
- RANDOM-SIGNAL VOLTMETER provides root-mean-square measurements of random voltage signals. Accurate long-time-average measurements are made in the presence of low-frequency components. A panel switch selects a 0.1-sec integration time for quick estimates or a 10-sec interval for exact measurement. Accuracy is ±2 percent on 18 full-scale ranges from 500 µv to 250 kv r.m.s. Bandwidth is 2 to 250,000 cy/sec within ±0.2 db. (Flow Corporation, Dept. S836)
- ACTIVATED CARBON is available in molded shapes formed from powdered, highly adsorbent carbon bonded with an organic resin. The shapes are treated to be dust free. Two sizes of wafers are presently standard; one 3 mm thick by 33 mm in diameter, the other 9 by 38 mm. (National Carbon Company, Dept. S831)
- VIBRATOR employs a hydraulic-mechanical system to produce forces up to 20,000 lb at frequencies up to 600 cy/sec. Acceleration levels up to 50 g are reached. The vibrator consists of a vibration head, a hydraulic pump unit, and a variable-speed-drive motor. The force piston is designed to carry loads up to 100 lb directly. Larger loads are independently suspended. (L. A. Corporation, Dept. S843)
- TIME-CODE GENERATOR supplies a 16-bit, 24-hour binary code to hours, minutes, and seconds. Time can be read directly to 0.01 sec and interpolated to 0.001 sec. In addition to binary codes, continuous pulse trains of 100, 10, and 5 pulses/sec are produced. The time source is a temperature-controlled crystal with long-term accuracy of 1 in 10<sup>6</sup>. Coding is done by transistor-driven magnetic cores.



## VENOMS

#### AAAS Symposium Volume No. 44

6" x 9", 480 pp., 113 illus., index, cloth, Dec. 1956

#### Price \$9.50. AAAS Members' cash order price \$8.25

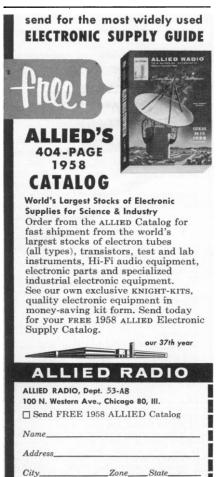
First International Conference on Venoms, with 95 contribu-tors from 18 countries. Comprehensive coverage of all aspects of the problem.

This book covers poisonous fishes and marine organisms, many species of venomous snakes, the Gila monster, toads, scorpions, spiders, caterpillars, wasps and other venom-bearing insects; hyaluronidaselike substances and other spreading factors in venoms; various chemical components of venoms, coagulant and anticoagulant factors, antigenic principles; various experimental and suggested clinical uses of venoms; clinical considerations: mortality rates, treatment of many kinds of envenomation; new developments in serotherapy and types of supplementary medication; dangers of refrigeration for treatment.

Of special interest to: Physicians, pharmacologists, chemists, and zoolo-

#### AAAS

1515 Mass. Ave., NW, Washington 5, D.C.



The unit will operate over a temperature range - 40° to + 80°C. (Electronic Engineering Co. of California, Dept. S841)

- SCINTILLATION TRANSDUCER combines a high-clarity, thallium-activated sodium-iodide crystal with a standard 5-in. multiplier phototube in an integral unit. The units are housed in mumetal magnetic shields together with preamplifiers. Crystal length up to 4 in. is available, and special configurations can be supplied. (Levinthal Electronics Products, Inc., Dept. S834)
- HIGH-VOLTAGE POWER SUPPLY for scintillation counters uses a bank of 17 coldcathode tubes to regulate the output voltage. Drift over a 6-day period is less than 1/1000. Output voltage is variable in 17 steps from 100 to 1400 v; output current is 1 ma. Load regulation is 0.35 percent, and line regulation is 0.01 percent from 100 to 130 v. (Victoreen Instrument Co., Dept. S804)
- INFRARED ANALYZER, for gases of medical interest, uses detector cells sensitive to the gas to be measured. Cells can be interchanged to permit measurement of carbon dioxide, nitrous oxide, cyclopropane, Fluothane, and other gases. Application to anesthesia monitoring is suggested. (Spinco Division, Beckman Instruments, Inc., Dept. S835)
- VARIABLE-FREQUENCY OSCILLATOR has a continuously adjustable range of 100 cy to 100 kcy/sec. Output frequency is selected by positioning five digital selector switches. Accuracy is ± 0.005 percent or ±5 counts, whichever is greater. A crystal-controlled generator is used as a reference-signal source. (Digital Instrument Laboratories, Dept. S838)
- VOLATIMETER is an instrument for determining the moisture content of solids. Water vapor volatilized from the particles of the specimen just below the melting point is trapped in a syringe of the apparatus. Rise of the syringe piston measures the volume of vapor thus collected. (Manufacturers Engineering and Equipment Corporation, Dept. S842)
- ELECTROMAGNETIC ANGLE TRANSDUCER, developed by Bell Telephone Laboratories under Air Force contract, exhibits resolution better than ±3 sec of arc. The instrument is a reluctance-type, variablecoupling transformer. Two output voltages vary in amplitude as the sine and cosine of 27 times the angle through which the rotor is turned. Other ratios are possible. All windings are on the stator, leaving the rotor free of sliding contacts. (Clifton Precision Products Co., Dept. S846)

JOSHUA STERN National Bureau of Standards

#### SAVE \$25 on this unused

Gov't Surpus STAINLESS STEEL CHISEL AND GOUGE SET!

Regularly \$30 NOW complete 4 piece set only \$5.00 ppd.

singly per chisel or gouge \$1.50 ppd.

singly per chisei or gouge \$\frac{1}{2}.50 ppd.

This 4 piece surgical steel chisel and gouge set, never used, still in its original packing—only \$5! Less than the price you'd pay for ordinary chisels! The finest quality tools you can buy for cutting, carving and whittling wood! If they weren't gov't. surplus, you'd expect to pay \$30 a set—\$\frac{2}{3}.50 each tool! Originally made for surgical use from the finest heavy chromed surgical steel, they'll last a lifetime!

#### Extra Heavy -\_ .006 Gauge BLACK PLASTIC TARPAULINS Waterproof, Resistant to Dust, Air, Grease, Unaffected by Heat or Cold

Covers and protects hundreds of items in and around the Home, Cottage and Farm. Lightweight for easy handling by one man yet strong enough to withstand the roughest handling. Solid Brass

Grommets every 18" for easy and secure tie-down.
Use OUTDOORS as Frost Cover; Cordwood Cover; Cold
Frame for shrubs, trees, plants; Mulching; Auto. Boat
or Private Plane Cover; Wind Break; Temporary Shelter; Silage Cover; Hay and Straw Stack Cover. Use
INDOORS as Machinery Cover; Mechanic's Tarp; Brop.
Cloth; Building Material Cover; Temporary Window;
Macchanding Cover. Merchandise Cover; Woolen Storage; Porch Protection; Picnic Cloth; Play pen Pad, etc.

6'x 9' .... \$4.99 9'x12' .... 7.50 20'x10' .... 12.50

20'x20' .... \$21.50 20'x30' .... 31.50 Prices include postage.

KNIVES

Surgical Steel — Hand Ground Set of 12 CARVING



\$2.00

The sharpest, keenest ground, surgical steel blades we have ever seen—sharp enough to split a human hair in two! 12 different shapes and edges can do every job of wood carving, model making, linoleum cutting, sculpting and whittling imaginable. Each blade has a 4½" long hardwood handle for easy gripping . . heavy duty blade is firmly attached by means of a brass ferrule to insure long, continued rugged use. Each surgical steel blade precision handground to easily and quickly notch and cut any shape you wish. A sensational all-purpose set, well worth \$5.95.

### **Automatic Siphon Pump**

\$1.98

Now—siphon any liquid automatically, safely, WITHOUT putting tube to mouth! Squeeze bulb, liquid starts to flow immediately! Transparent sections let you see liquid flowing! Siphons, pumps gasoline, water, any liquid. Even acids, corrosives! For cars, boats, power mowers, campers, plumbers, doctors, chemists, factories! Acid resistant. Over 7 ft. long!

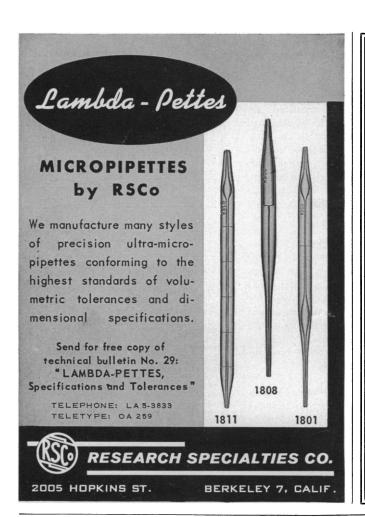
ALSO AVAILABLE-Heavy Duty Siphon

#### Power Illuminated LOUPE must for every handyman, hobbyist, student

Imagine, a precision-built 7 power magnifier with built-in light so every detail stands out clear, sharp, regardless of outside illumination! Openius is become become the weather than the control of th ing in housing permits use with other instruments. Wonderful for stamp collectors, banks, to check signatures; textile field, to examine fibers, materials; photo retouching model work; students, labs, to examine specimens; machine shops, auto mechanics to check drills, plugs; jewelers. Lens diameter 1-3/16". Removable linen tester plate for counting threads. Worth \$9.95 Lens diameter

(batteries not included)

Send Check or M.O. C.O.D. plus fee, Money Back Guarantee SCOTT-MITCHELL HOUSE, INC. Dept. 7101, 611 Broadway, New York 12, N.Y.



Now Available: Volume 9 (1958)

### ANNUAL REVIEW OF

## **PSYCHOLOGY**

Editor: P. R. Farnsworth Associate Editor: Q. McNemar

Editorial Committee: J. M. Butler, P. R. Farnsworth, D. B. Harris, L. G. Humphreys, J. McV. Hunt, C. T. Morgan

#### CONTENTS:

Perception, W. C. H. Prentice
Vision, L. A. Riggs
Hearing, J. D. Harris
Physiological Psychology, J. Brozek
Comparative Psychology, W. S. Verplanck
Developmental Psychology, P. S. Sears Learning, D. H. Laurence
Educational Psychology, A. P. Coladarci
Statistical Metnods, H. H. Harman Industrial Psychology, L. W. Ferguson Engineering Psychology, P. M. Fitts Personality, A. R. Jensen
The Theory and Technique of Assessment, G. A. Kelly
Psychotherapy, W. U. Snyder
Counseling, L. E. Tyler
Abnormalities of Behavior, A. M. Garner Social Psychology and Group Processes, R. W. Heyns Recent Developments in Psychology in the U.S.S.R., A.

543 pages

\$7.00 postpaid (U.S.A.); \$7.50 postpaid (elsewhere)

### ANNUAL REVIEWS. INC.

Grant Avenue, Palo Alto, California

## PERSONNEL PLACEMENT

CLASSIFIED: 25¢ per word, minimum charge \$4.25. Use of Box Number counts as 10 additional words. Payment in advance is required.

COPY for classified ads must reach SCIENCE 2 weeks before date of issue (Friday of every week).

DISPLAY: Rates listed below—no charge for Box number. Monthly invoices will be sent on a charge account basis — provided that satisfactory credit is established.

Single insertion 13 times in 1 year 26 times in 1 year 52 times in 1 year \$26.00 per inch 24.00 per inch 23.00 per inch 22.00 per inch

For PROOFS on display ads, copy must reach SCIENCE 4 weeks before date of issue (Friday of every week).

Replies to blind ads should be addressed

Box (give number) Science 1515 Massachusetts Ave., NW Washington 5, D.C.

### POSITIONS WANTED

Biostatistician, Ph.D., seeks university research affiliation; broad range of experience and publications; development of meaningful statistical systems and designs for clinical evaluation; background of application in psychiatry, psychopharmacology, chemotherapy in tuberculosis, epidemiology, and general medicine. Box 313, SCIENCE.

Canadian, M.Sc., Physiology; experience in clinical chemistry, pharmacy, biochemical research; knows electronics, shop mechanics. Box 314, SCIENCE.

Pharmacologist; 8 years, professor and head, pharmacology department, state university; 4 years, director of research, pharmaceutical company. Medical Bureau, Burneice Larson, Director, 900 North Michigan, Chicago.

#### POSITIONS WANTED

General Physiologist; Ph.D.; age 32. Experienced in algal physiology, biochemistry, metabolic and enzyme methodology, microchemical analysis. Interested in research or research and teaching position. Box 321, SCIENCE. 1/3

RESEARCH SCIENTIST, Ph.D. Physiologist. Excellent and unusual pre- and postdoctoral hybrid education and training. World-wide academic and professional experience in life sciences (including especially, endocrinology, nutrition, metabolism) as researcher, teacher, administrator; in animal and human experimentation. Young, adept, versatile, energetic, creative, efficient. Desires immediate, challenging foreign or domestic appointment. Send complete details to 3034 Cazador St., Los Angeles 65, Calif. 1/10, 17

Scientific Medical German. Excellent, Ph.D. man (Germany); available. Box 1, SCIENCE.

Zoologist, Ph.D.; 1-year postdoctoral research; 6 years' teaching experience; ornithology, mammalogy, wildlife management, ecology; publications; excellent teacher. Desires research and teaching position. Box 322, SCIENCE. 1/3

Zoology, Physiologist, Ph.D.; 8 years teaching experience in small midwestern college. Interest is general zoology or general biology and mammalian physiology. Research is gastro-intestinal physiology. Box 3, SCIENCE.

#### POSITIONS OPEN

CHEMISTS AND MATHEMATICIANS; Ph.D. preferred; teaching and research in expanding departments; salary dependent on experience and other qualifications. Inquiries should be addressed to Chairman, Division of the Natural Sciences, Dillard University, New Orleans 22, Louisiana. 12/20, 27; 1/3, 10, 17

#### POSITIONS OPEN

### **BIOLOGICAL DIVISION PERSONNEL**

Excellent opportunities with Biological Division of large pharmaceutical firm.

Group concerned primarily with the characterization and adaptation to manufacturing levels of products of microbiological and otherwise natural origin, with particular emphasis upon those applicable to the prevention and treatment of human diseases requires highly qualified men in the following fields: SENIOR INVESTIGATORS, Ph.D.

Microbiologist-Immunochemist, Bio-chemistry, Tissue Culture, Virology,

JUNIOR INVESTIGATORS

Bacteriology, Mycology, Immunology, Virology.

Write stating qualifications and salary desired to:

Wyeth Box 8299 Philadelphia 1, Pa.

SCIENCE TEACHERS, LIBRARIANS, AD-MINISTRATORS urgently needed for positions in many states and foreign lands. Monthly non-fee placement journal since 1952 gives complete job data, salaries. Members' qualifications and vacancies listed free. 1 issue, \$1.00. Yearly (12 issues) membership, \$5.00. CRUSADE, SCI., Box 99, Station G, Brooklyn 22, N.Y. ew

#### Photographers!

Adapt your camera to this Scope for excellent Telephoto shots and fascinating photos of moon!



See the Stars, Moon, Planets Close Up!

#### 3" ASTRONOMICAL REFLECTING TELESCOPE

ASSEMBLED and READY TO USE!

Famous Mt. Palomar-Type

Famous Mt. Palomar-Type
60 & 120 Power — An Unusual Buy!
You'll see the Rings of Saturn, the fascinating planet Mars, huge craters on the Moon, Star Clusters, Moons of Jupiter in detail. Galaxies! This is a fine quality, American-made telescope engineered and built for clear definition and resolution. Equatorial mount with lock on both axes—you automatically follow stars across the heavens. Aluminized and overcoated 3" diameter high-speed f/10 mirror. Each mirror Focault tested. Telescope comes equipped with a 60X eyepiece and a mounted Barlow Lens, giving you 60 & 120 Power. Accessory eyepieces available for powers up to 250. An Optical Finder Telescope, always so essential, is also included. Sturdy, hardwood, portable tripod. Free with scope: Valuable STAR CHART and 272 page "Astronomy Book."

Stock No. 85,050-W \$29.50 f.o.b. (Shipping wt. 10 lbs.)

Barrington, N.J.



This is an actual photograph of the moon taken through our Astronomical Telescope by a 17-year-old student

#### Take Telephoto Shots Thru 7x50 MONOCULAR

This is fine quality, Ameri-

BUILD A SOLAR ENERGY FURNACE

Wonderful Geophysical Year
School Project

Build your own Solar Furnace for experimentation — many practical uses.
It's easy—inexpensive. Use your scrap wood. We furnish instruction sheet. This sun powered furnace will generate terrific heat—2000° to 3000°. Fuses enamel to metal. Sets paper afame in seconds. Use our Fresnel Lens—14 ¾ ″ diameter . . f.1. 14 Stock No. 70.130-W pkg. of 1 . . \$6.00 Post Stock No. 70.131-W pkg. of 2 . . . . 11.00 Post Stock No. 70,132-W pkg. of 4 . . . . . 20.00 Post

11.00 Postpaid 20.00 Postpaid

## Geophysical Year Scoop REAL 150 POWER ASTRONOMICAL TELESCOPE Achromatic Lens! Refractor Type!



Only \$16.95 Postpaid

Only \$16.95 Postpaid Edmund cracks the price barrier with a tremendous Scope of excellent quality and performance at low, low price. Clear, razor-sharp viewing of stars, planets, craters on moon, etc. 32mm achromatic objective lens! First surface mirror diagonal (ends "stoop" viewing). Removable eyepiece—interchangeable. Glare stops in tube. Lens mounts of brass and aluminum! 50, 75, and 150 power! Tube length 27½". Newly designed attachment clamp for solid, vibrationless viewing. Money back guarantee. Included free: 273 page "Handbook of the Heavens", Star Chart—and 16 page Star Booklet. Stock No. 80,060-W ... \$16.95 Postpaid LARGER 42MM OBJECTIVE MODEL—67, 100, 200 power—same features as above, with 38" tube length—(included free: "Handbook of the Heavens", Star Chart and 16 page Star Booklet).

Stock No. 80,061-W ...... \$19.95 Postpaid



INFRARED SNIPERSCOPE TELESCOPE & PARTS See in the dark—without being observed. War surplus Sniperscope M-2, Gort'. cost about \$1200. Instrument complete, ready to use. Includes Power Pack, infrared light source. Will operate from 6 V auto battery. Battery or transformer available

or transformer available.

Stock No. 85,053-W \$150.00 f.o.b.
Save still more money! Build your own
Sniperscope! We will furnish instructions—parts, including: Power Packs,
1P25A image tubes, light units, filters, etc. For details—request FREE Catalog "W".

SO-150-300 Power

MICROSCOPE

Low Price Yet Suitable for Classroom
Use! Only \$14.95

3 Achromatic Objective Lenses on
Revolving Turret!

Imported! The color-corrected, cemented achromatic lenses in the objectives give you far superior results to the single lenses found in the microscopes selling for \$9.951 Results are worth the difference! Fine rack and pinion tocusing.

Stock No. 70,008-W .... \$14.95 Postpaid
MOUNTED 500 POWER OBJECTIVE
... Threaded for easy attachment on above



MEASURES • Angles
Radii • Circles
Inear — in both

 Linear — in both decimal inches and millimeters.

Used to check layouts, FAST! ACCURATE! machining on tools, dies, gauges; to check threads, chamfers, wear on cutting tools, etc.

Stock No. 30,061-W .. New Low Price .. \$19.50 Ptspd.



**MEASURING POCKET** MICRISCOPE - 50 POWER

No larger than an ordinary fountain pen, this handy pocket 

New! 2 in 1 Combination! Pocket-Size 50 POWER MICROSCOPE and

#### STEREO MICROSCOPE



Up to 3" Working Distance -Erect Image-Wide 3
Dimensional Field

Now, ready after years in development — this instrument answers the long standing need for a sturdy, efficient STEREO MICROSCOPE at low

STEREO MICROSCOPE at low cost. Used in production—in research—in the lab, shop, factory, or at home; for inspections, examinations, counting, checking, assembling, dissecting—speeding up and improving quality control. 2 set of objectives on rotating tive you 23 power and 40 power. Additional expeices available for greater or lesser magnification. A low reflection coated prism erecting system gives you an erect image—correct as to right and left—clear and sharp. Helical rack and pinion focusing. Precision, American-madel Storage chest included. 10-DAY TRIAL . . . complete satisfaction or your money back. or your money back.

Order Stock No. 85,039-W (Shipping wt. approx. 11 lbs.)
Full price ...... \$99.50 f.o.b. Barrington, N.J.
Send Check or M.O.

#### NEW! STATIC ELECTRICITY GENERATOR



See a thrilling spark display as you set off a miniature bolt of lightning. Absolutely safe and harmlessperfect for classroom experimentation. ideal for Science Clubs. Sturdily made—stands 14" high Turn the handle and two 9" plastic dises rotate in opposite directions. Metal collector brushes pick up the static electricity, store it in the Leyden jar type condenser until discharged by the jumping spark. Countless tricks and experiments. 24-page instruction booklet included.

Stock No. 70.070-W ... \$10.95 Postpaid

Stock No. 70,070-W ...... \$10.95 Postpaid

#### BRIGHT BEAM LAMP

Gives brilliant and uniform illumination! Optically designed for all closework operations. Adjustable to almost any position. Widely used in conjunction with stereoscopic and dissecting microscopes, toolmakers' microscopes, magnifiers and loupes . . excellent for use with student microscopes. Variable spot of light obtainable from 5% diameter, very intense, to about 3", less bright, simply by sliding focus tube back and fourth. Complete with bulb and daylight filter, on stand. Money-back guarantee.



Stock No. 15,001-W ...... \$27.50 Postpald



SWIVEL-CLAMP MAGNIFIER This large 4" diameter magnifier will easily clamp onto any regular or fluorescent lighting fixture. With two ball and socket joints you can swivel, it to any position. Large 4" ground and polished lens is + 5 dioptre, 8" focal. Use both eyes—see an image with depth to it.

Stock No. 30,249-W ...... \$4.00 Postpald

#### SIMPLE LENS KITS!

Fun for adults! Fun for children! Kits include plainly writ-ten, illustrated booklet showing how you can build lots of optical items.

Stock No. 5-W-45 lenses ..... \$ 5.00 Postpaid Stock No. 2-W-10 lenses ..... \$ 1.00 Postpaid Stock No. 10-W-80 lenses ..... \$10.00 Postpaid

### **GET OUR GIANT** FREE CATALOG-W

Over 1000 Optical Bargains, 80 Fascinating Pages Huge selection of lenses, prisms, war surplus optical instruments, parts and accessories Telescopes, satellite scopes,

tical instruments, parts scopes, satellite scopes, microscopes, binoculars. Hand spectroscopes, reticles, mirrors, Ronchi rulings, dozens of other hard-to-get optical items. America's No. 1 source of supply for Researchers. Lab. Technicians, Photographers. Hobbyists. Teleraphers, Hobbyists, scope Makers, etc. for catalog W. etc. Ask

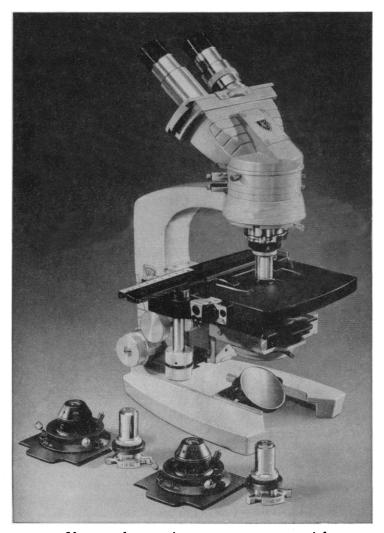


ORDER BY STOCK NUMBER . SEND CHECK OR MONEY ORDER . SATISFACTION GUARANTEED!

CO., BARRINGTON, NEW **JERSE** 

# New AO-Baker

## INTERFERENCE MICROSCOPE



If you need to examine or measure your material more effectively and precisely, we invite you to investigate this new advance in microscopy.

	n Optical • Instrument Division 5, New York
Dept. A-	1
j	Please send me your catalog on the NEW AO-Baker Interference Microscope.
NAME	
ADDR	ESS
CTIEST	ZONE STATE

The NEW AO-Baker Interference Microscope is the unique combination of a double beam interferometer and polarizing microscope. It dramatically provides for the precise examination of transparent specimens where detail is exhibited by variations in thickness or refractive index.

With white light illumination, contrast effects are greatly enhanced by brilliant and variable color contrasts. Details show up as if differentially stained.

With monochromatic or filtered light, interference contrasts can be varied from bright to dark and relative optical thicknesses are measurable to an optimum accuracy of 1/300 wave length.

Interference Contrast Microscopy like Phase Contrast Microscopy depends on the nature of the specimen detail to retard light—by virtue of refractive index and thickness—and does not depend on the property of the specimen to absorb light. In this connection the AO-Baker Interference Microscope is similar to the conventional Phase Contrast Microscope.

The principle of the Phase Contrast Microscope depends upon light diffraction for its contrast effects—the AO-Baker Interference Microscope does not. By means of the unique built-in interferometer, mutually interfering beams are produced, recombined, and if the two beams suffer relative retardation, readily visible contrast results.

The AO-Baker Interference Microscope has already won acclaim and recognition as an important aid to the solution of a great variety of biological and industrial microscopical problems. Most scientific workers were *initially* of the opinion that the Interference Microscope would have its greatest utility for solving measurement problems. It now develops that equal or greater promise can be expected from its value as a method of variable phase and variable color contrast.

American Optical Company
INSTRUMENT DIVISION, BUFFALO 15, NEW YORK