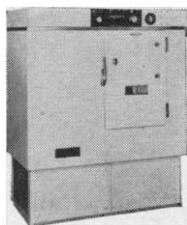
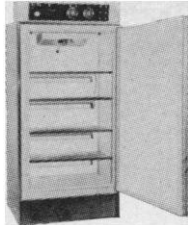


E-54B



E-54U



I-36

## NEW FROM THE NOW PEOPLE OF PERCIVAL



E-30

Don't the new environmental chambers that you've seen at the recent shows make you wish that you had ordered one before now? Well why wish any longer? Phone us, collect, from anywhere in the U.S.A. and one (or several) of the models shown can be on its way to you within hours. If you need assistance in choosing the right model, or if special accessories or modifications will be required to tailor our chambers to your specific needs, write and ask for the name of your nearest Percival representative. Through him . . .

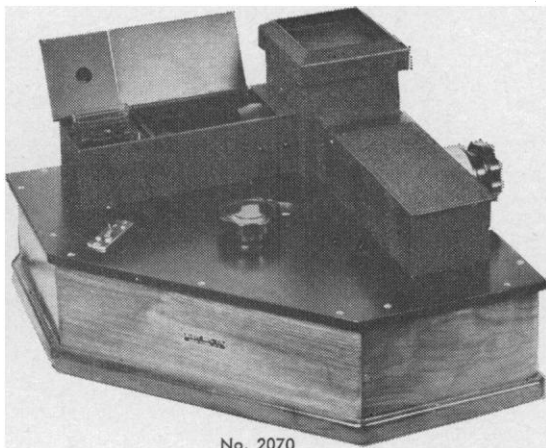
### OUR EXPERIENCE BECOMES YOUR PROTECTION



**PERCIVAL REFRIGERATION & MFG. CO.**

1442 Walnut Street Des Moines, Iowa 50307

### THE KLETT FLUORIMETER



No. 2070

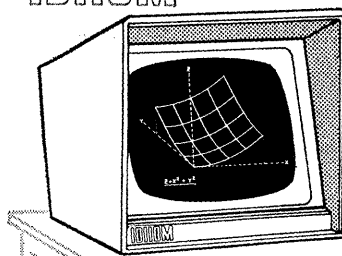
Designed for the rapid and accurate determination of thiamin, riboflavin, and other substances which fluoresce in solution. The sensitivity and stability are such that it has been found particularly useful in determining very small amounts of these substances.

#### KLETT SCIENTIFIC PRODUCTS

PHOTOELECTRIC COLORIMETERS • BIO-COLORIMETERS  
GLASS ABSORPTION CELLS • COLORIMETER NEPHELOMETERS • KLETT REAGENTS • COLONY MARKER AND TALLY

**Klett** Manufacturing Co., Inc.  
179 EAST 87TH STREET, NEW YORK, N. Y.

IDIOM-



Makes  
Problem  
Solving  
Simple

IDIOM- is a...

#### FLEXIBLE

IDIOM can be used alone or interfaced with any computer. It has a versatile instruction repertoire that uniquely suits it to such applications as computer-aided design, simulation, on-line process control, computer-aided instruction, management information, command and control, information retrieval, human factor studies, medical research, and more, and more, and more.

#### SELF-CONTAINED

IDIOM has its own programmable, expandable, 4096 x 16 bit, random access memory. It is free standing and requires no external computer for message composing and editing, for light pen tracking, or for display refreshing.

#### PEOPLE LANGUAGE

IDIOM accepts input directly in your language and is ideal for man-machine dialog. With a light pen, keyboard, track ball or other man-input device you feed graphic or alphanumeric data directly into the computer and your answer comes back as graphics or alphanumerics — immediately usable without conversion.

#### PROBLEM SOLVING MACHINE

IDIOM, because it solves so many kinds of problems so efficiently, solves your problem of buying enough of the right kind of computation equipment for a variety of applications. Whether your basic need is for display or computation, whether your system can operate independently or must be interfaced with your present equipment, IDIOM is your answer. If interfaced with your present computer, IDIOM greatly expands computer useability because only large scale data manipulation and storage need be done in the central computer.

IDIOM comes with a wide variety of options to suit it to a wide variety of applications.

#### IDIOM is another advance from IDI.

Want more data? Drop us a card for the descriptive brochure.

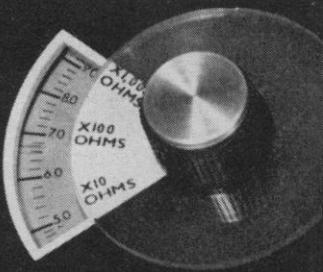


**INFORMATION DISPLAYS, INC.**

333 N. Bedford Road, Mt. Kisco, N. Y. 10549  
P. O. Box 688 (914) 666-2936



a new  
easy to use  
direct reading  
laboratory  
conductivity  
bridge



The YSI Model 31 Conductivity Bridge is brand new and specifically designed for laboratory use. Measure conductivity and resistivity with convenience, speed, and accuracy at 60 cycles or 1 kc. Use it over the entire range of electrolytic conductance from demineralized water to strong acids.

A unique multiplier scale, overlapping the basic scale, permits fast, easy direct reading. A high intensity parallel bar electron ray tube provides easy, exact determination of null. Line cord and electrodes are located out of the way.

Specifically designed for the laboratory, the YSI Model 31 is the most easy to use conductivity bridge available. Three new laboratory designed precision conductivity cells also are available. Ask us for full details.

 **YELLOW SPRINGS INSTRUMENT CO.**  
YELLOW SPRINGS, OHIO

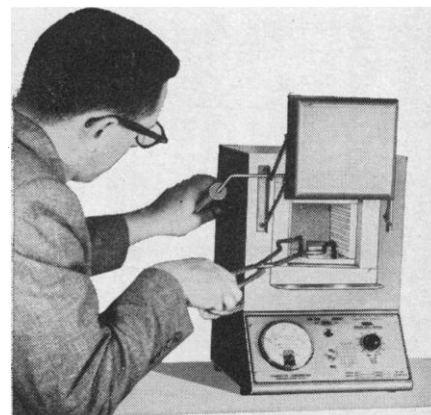
## INDEX OF ADVERTISERS

1 December 1967

Academic Press	1240
American Optical Co.	1252
Ann Arbor Science Publishers Inc.	1232
Bausch & Lomb	1129, 1135, 1226
Beckman Instruments, Inc.	1140
Bel-Art Products	1230
Belco Glass, Inc.	1245
Bronwill Scientific	1137
BRS Electronics	1236
Buchler Instruments, Inc.	1245
Canal Industrial Corp.	1109
Cary Instruments, a Varian subsidiary	1122
Chemical Rubber Co.	1134
Clevite Corp., Brush Instruments Div.	1118
Coleman Instruments Corp.	1108, 1242
Custom Scientific Instruments, Inc.	1112
Du Pont Co.	1125
E-C Apparatus Corp.	1136, 1238
Edmund Scientific Co.	1239
E & M Instrument Co.	1235
Eon Corp.	1225
Fish-Schurman Corp.	1246
Fisher Scientific Co.	1102
Gilford Instrument Laboratories, Inc.	1128
Harvard Apparatus Co., Inc.	1246
Hewlett-Packard	1094, 1113
Honeywell, Inc.	1098, 1099
Houghton Mifflin	1227
Information Displays, Inc.	1243
Institute for Scientific Information	1235
Instrumentation Associates, Inc.	1235
Instrumentation Specialties Co., Inc.	1230
Jeolco (U.S.A.), Inc.	1123
Kirschner Manufacturing Co.	1221
Klett Manufacturing Co., Inc.	1243
Kontes Glass Co.	1239
Lab Cages Inc.	1101
Labindustries	1136
Lab-line Instruments, Inc.	1232
Lea & Febiger	1116
Leitz, E., Inc.	1138
LKB Instruments Inc.	1132, 1251
Lourdes Instrument Corp.	1121
Manostat Corp.	1233
Mark Co.	1224
Maryland Plastics, Inc.	1241
Mechanical Enterprises	1238
Melpar, Inc.	1249
Mettler Instrument Corp.	1095
Mistaire Laboratories	1234
New American Library	1238
New Brunswick Scientific Co.	1104
Olympus Corporation of America	1115
Oxford University Press	1222
Paillard Inc.	1120
Percival Refrigeration & Mfg. Co.	1243
Perkin-Elmer Corp.	1106
Pharmacia Fine Chemicals Inc.	1134
Phipps & Bird, Inc.	1221
Photovolt Corp.	1117
Plenum Publishing Corp.	1100
Polaroid Corp.	1127
Precision Scientific Co.	1231
Professional Tape Co., Inc.	1225
Research, Inc.	1246
Sargent, E. H., & Co.	1126
Schwarz BioResearch, Inc.	1107
Scientific Notebook	1242
Scientific Products, Div. of American Hospital Supply Corp.	1124
Shandon Scientific Co.	1237
Sherer-Gillett Co.	1224
Sigma Chemical Co.	1227
Sigmamotor, Inc.	1224
Sobotka, Eric, Co., Inc.	1240
Sorvall, Ivan, Inc.	1119
Spectrolab	1236
Technicon Corp.	1130
Tektronix, Inc.	1114
Thermolyne Corp.	1244
Tracerlab	1221
TRG, Inc.	1103
Unitron Instrument Co.	1105
University of California Press	1228
Vickers Instruments, Inc.	1229
Wild Heerbrugg Instruments, Inc.	1223
Wilkins-Anderson Co.	1240
Worthington Biochemical Corp.	1228
Yellow Springs Instrument Co.	1244

# THERMOLYNE

Laboratory ☒ HEAT  
Apparatus ☐ LIGHT  
for: ☐ MOTION



Where versatility and  
modest cost are needed  
**FURNACE TYPE 1500**  
is the one.

- **STEPLESS TEMPERATURE CONTROL**  
Anything from 350F/177C to max. regardless of line voltage and ambient temperature. Easy reading dual scale pyrometer.
  - **SPACE-SAVER DESIGN**  
Convenient base-mounted built-in controls. Holds temperatures accurately and constant.
  - **TWO CHAMBER SIZES—LONG & SHORT**  
4 x 3 3/4 x 4 1/2, or 4 x 3 3/4 x 9. Hi-Temp heating elements optional.
  - **SAFETY DOOR**  
Fits tight but opens readily. Swings up with hot side away. Stays open or closed by counter-weighted handle with simple positive movement.
  - **NO SCORCHED OR BURNED BENCH TOPS**  
Scientifically designed ventilated base keeps controls and bench tops cool.
  - **LONG LIFE**  
Sturdy steel body, all metal joints welded, three inches insulation, embedded heating elements.
- PRICE . . . . \$170.00 to \$190.00

## New CATALOG 67

Write today for your free copy

48-Page catalog shows expanded line: furnaces, controls, hot plates, mag. stirrers, Stir - Plates, Stir - Lights, Dri-Baths, incubators, lab-lights, meters, Owner - Built furnace accessories.



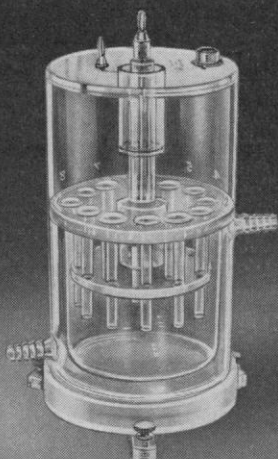
## THERMOLYNE CORPORATION

2555 KERPER BLVD.  
DUBUQUE, IOWA 52001 U.S.A.

"A subsidiary of Ritter-Pfaudler Corporation".

# ANALYTICAL AND PREPARATIVE DISC ELECTROPHORESIS

Precise and rapid high resolution fractionation of complex organic compounds  
• PROTEINS • POLYNUCLEOTIDES • PEPTIDES • ENZYMES • HORMONES  
under efficient temperature regulated conditions. Temperature regulated bath permits fractionation of heat labile substances.



## POLYANALYST

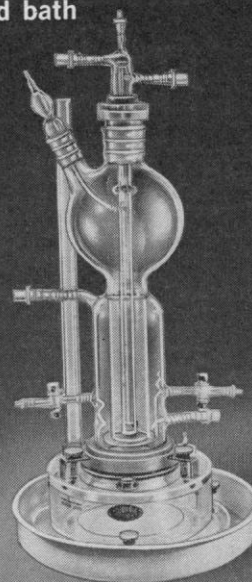
- Compact and convenient to use
- 0.005 to 0.2 mgm/column
- Fractionation 30-45 minutes
- 12 sample columns
- Separation-destaining in single unit

Bulletin #S3-1750

## POLY-PREP

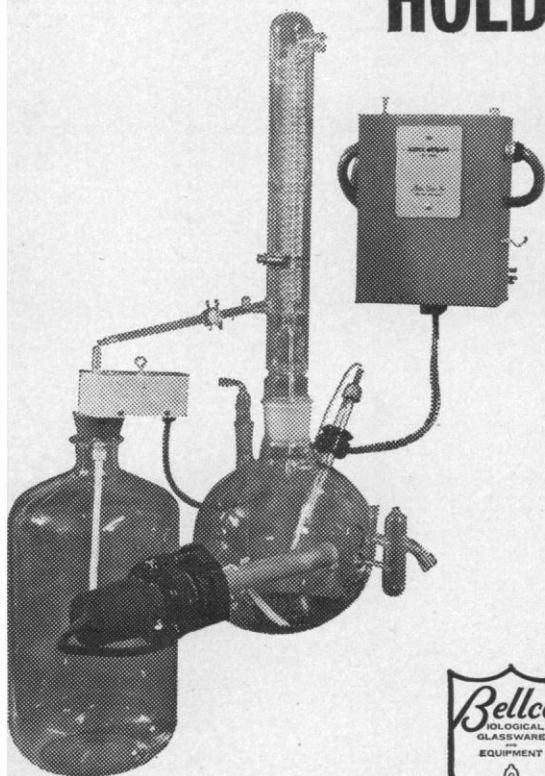
- Continuous, symmetrical elution of fractions
- 1 mgm to 200 mgm capacity
- Sample volumes to 160 ml
- Gel length 1-20 cm
- Fractionation in less than 10 hrs.

Bulletin #S3-1700



LABORATORY APPARATUS • PRECISION INSTRUMENTS  
**BUCHLER INSTRUMENTS, INC.**  
1327 16TH STREET, FORT LEE, NEW JERSEY 07024

# HOLD "STILL" FOR ANOTHER BELLCO FIRST . . . .



The **first** scientific glassware designers to market a high productivity glass still a decade ago, now introduce a **completely automatic ALL-GLASS** water still AND collection system.

- All glass heating element
- Compact in size and design
- Lowest cost per liter of any competitive still
- Automatically turns off water and element when reservoir is full or water source fails
- Produces distilled water either from tap, or previously de-ionized or distilled water
- Need not be disassembled to be cleaned
- Two models available — 4 liters per hour  
8 liters per hour

Write or call:



**Bellco GLASS INC.**

Dept. SM12 VINELAND, NEW JERSEY 08360 • AREA CODE 609, 691-1075



Mix & Dispense  
Two Gases  
to  $\pm 0.05\%$  Accuracy  
with the



## CALI-GAS MIXING PUMP



Ideal for

■ Instrumentation Standardization ■ Critical Mixing Requirements ■ Metering Gases ■ Gas Standards

Two pistons, timed to each other, enables the i/a Cali-Gas Mixing Pump to combine and dispense two pure gases to highly accurate calibration ranges. Complete with two pumps, bronze gears, oil bath housing and plastic case — \$775.



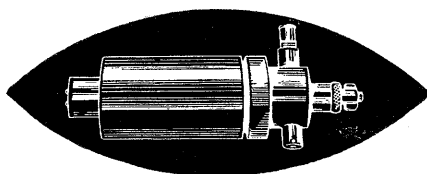
For Complete Information, Write:

**INSTRUMENTATION ASSOCIATES, INC.**

17 West 60th St. New York, N.Y. 10023 (212) 245-0840

Scientific Instruments for Medicine & Industry

## MINIATURE PORTABLE LAMBDA PUMPS



Delivering 0.01 ml./stroke with absolute accuracy of  $\pm 1\%$ , these 8 oz. solenoid-operated piston pumps can be run by a battery and worn by a living animal, or by an AC driver/timer for an extremely accurate laboratory infusion system.

ASK FOR YOUR FREE COPY  
OF BULLETIN 1300



**HARVARD  
APPARATUS CO., INC.**

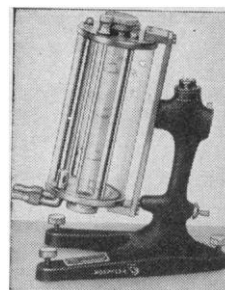
Dept. A-25, Post Office Box 24  
Millis, Massachusetts 02054

Viscosity directly  
in centipoises . . .

## HOEPLER VISCOMETER PRECISION MODEL

Hoepler Viscometer provides a fast, accurate method of determining viscosity of gases, liquids, oils, plastics, syrups, viscous tars and dark liquids. From 0°C. to 100°C. Direct readings in centipoises (or centistokes). From 0.01 to 1,000,000 centipoises. Accuracy 0.1% to 0.5%. Small sample (30cc) required. Results consistent and reproducible. Price \$350. Interchangeable spare parts available.

Write for Bulletin HV-303.



MADE IN U.S.A.

## UBBELOHDE VISCOMETER

on the principle of the suspended level

A capillary-type viscometer for determining the kinematic viscosity of any true viscous liquid, such as petroleum products or lubricants. See American Society for Testing Materials, A.S.T.M. Designation D 2515.

Measures viscosity with an error not greater than  $\pm 0.1\%$ , when used at efflux times at 80-1000 seconds. The smallest listed capillary is used for light fuel oil or kerosene, the others for lubricating oils. The temperature of the bath should be controlled within  $\pm 0.02^\circ\text{F}$ .

In all capillary sizes as called for by the A.S.T.M.—calibrated or uncalibrated. Uncalibrated capillary, \$20. Calibrated, \$38. Metal frame to fit capillary, \$7.50.

MADE IN U.S.A.

Write for Bulletin UV-514

## Schott Absorption Type Colored Optical Filter Glass

Processed in our New Rochelle Optical Shop in about 100 types for the ultra-violet (from about 250 nm), visible, and infra-red (to about 3,000 nm) spectral regions. Available in flat or as solid bars for the manufacture of tubing for liquid laser excitation.

Write for Bulletins CF-417 & ND-419.

Also Anti-Laser Eye-Protection Filter Glass BG-18

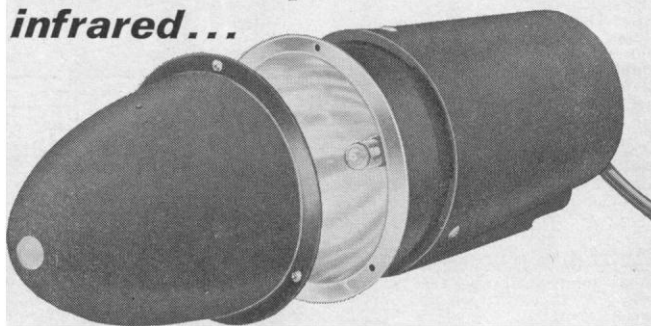
U.S. Importers and Distributors for over 40 years

FISH-SCHURMAN CORPORATION  
74 Portman Road, New Rochelle, N. Y. 10802

**Fish-Schurman**

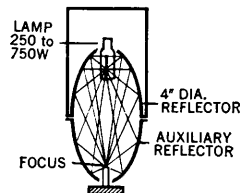


High intensity,  
infrared . . .



## spot heater

NO CONTAMINATION



Heat from lamp at one ellipsoid focus is concentrated at the other focus. (Auxiliary reflector may be removed or cut away to accommodate the heated item.)

Here's clean, quick, precisely controllable heat for small parts. A high-intensity, iodine-cycle lamp with 5400° F tungsten filament provides energy that is concentrated by an elliptical reflector on one very small spot. Heating rate and maximum temperature depend on absorptivity of the part heated. Reflector has provisions for air cooling.

APPLICATIONS: Soldering, glass-metal sealing, stress relieving, igniting, decoating.



**Research, Inc.**

R-I CONTROLS DIVISION  
BOX 6164H MINNEAPOLIS, MINN. 55424

# Personnel Placement

## POSITIONS WANTED

**Biochemist, Ph.D. 1957.** Presently faculty member state university. Current NIH grant (glycoproteins). Available February or June. Box 615, SCIENCE. 12/1, 8, 15

**Coordinator of Research, Ph.D. chemistry (1941).** Outstanding record with university, industry, government. Box 605, SCIENCE. 12/1, 8

**Immunologist, M.D., 45.** Associate head of medical school immunology research unit; industrial consultant. Seeks senior research position in pharmaceutical industry. United States or Europe. Box 622, SCIENCE. X

**M.D. Seeks Research Position.** Experience in pathology, exfoliative cytology. Radioisotopes, autoradiography. Physiology of reproduction, animal surgery. Box 617, SCIENCE. 12/1, 8, 15, 22, 29; 1/5, 12, 19, 26

**Medical Biochemist, Ph.D.;** clinical, public health laboratories, mental retardation research experience; prefers hospital or research appointment. Write WOODWARD PERSONNEL BUREAU, 185 NORTH WABASH, CHICAGO 60601. X

**Pharmacologist, Ph.D. 1957.** Extensive training in neurochemistry and neurophysiology. Holder of Research Career Development Award and research grants. Numerous publications. Desires senior academic position. Box 618, SCIENCE. 12/1

## POSITIONS OPEN

### UNIVERSITY OF CAMBRIDGE.

**University Lectureship in Physical Anthropology in the Department of Archaeology and Anthropology.**

The Appointments Committee of the Faculty of Archaeology and Anthropology intend to appoint a University Lecturer in Physical Anthropology in the Department of Archaeology and Anthropology, to hold office from 1 October 1968, or from such earlier date as is convenient to the candidate selected. The appointment will be subject to the Statutes and Ordinances of the University and will be for three years in the first instance, with the possibility of re-appointment to the retiring age.

The pensionable stipend of a University Lecturer is £1,830 a year, rising by annual increments of £90 to £2,010 a year, thence by annual increments of £85 to £2,180 a year, and thence by annual increments of £90 to £2,900 a year, or, if the person appointed is ordinarily resident in College, £1,730 a year, rising by annual increments of £90 to £1,910 a year, thence by annual increments of £85 to £2,080 a year, thence by annual increments of £90 to £2,800 a year. There is no grade of Senior Lecturer.

The pensionable stipend of a University Lecturer is subject to deduction on account of a Fellowship of a College with dividend, and also on account of certain other College emoluments.

The General Board, if the Appointments Committee so recommend, may determine that a University Lecturer's place on the scale of stipends on appointment shall be above the minimum.

Further information concerning the office, as well as information about the re-imbursement of removal expenses and, for persons resident outside the United Kingdom, travelling expenses may be obtained from the Secretary of the Appointments Committee.

Applicants should send their applications, with the names of not more than three referees, to Dr. S. J. Tambiah, Secretary of the Appointments Committee of the Faculty of Archaeology and Anthropology, Downing Street, Cambridge, so as to reach him not later than 15 December 1967.

### BIOCHEMIST

Ph.D. or equivalent in experience. To be an active worker as well as supervisor in a Laboratory doing research in mental illness. Opening salary \$12,000+. Position open January 1, 1968. Resume to Personnel Director, Station H, Central Islip, New York.

## POSITIONS OPEN

**Ph.D. Biochemistry-Pharmacology.** Due to expansion we are seeking a Ph.D. to carry out research programs in the field of biogenic amines. Responsibilities include participation in multi-disciplinary research, methods development and individual exploratory research. We are a large pharmaceutical company located in Montreal, Canada. We offer a full program of employee benefits and excellent research facilities. Please write in confidence giving complete details of education, experience, age and salary expected to: **Personnel Department, Ayers Laboratories, P.O. Box 6115, Montreal, Que., Canada.**

### UNIVERSITY OF SASKATCHEWAN Requires

Assistant (\$8,700-\$11,700), Associate (\$12,200-\$15,500) or Full Professor (\$16,000) of Ecology, from July 1, 1968. Teaching and research. Ph.D. only, and should have interest in mammals. Send curriculum vitae, publications list, names of three referees to **Dr. W. J. Maher, Department of Biology, University of Saskatchewan, Saskatoon, Saskatchewan, Canada.**

## ELECTRON MICROSCOPY SPECIALIST

For general supervision of new electron microscope facilities in medical school. To assist with training of graduate students and postdoctoral fellows in basic techniques of electron microscopy of biological materials. A college graduate with Science major and additional experience in electron microscopy will be considered. A Master's Degree is preferred. Send complete resume including salary requirement to: **Director of Personnel, UNIVERSITY OF PENNSYLVANIA, 3025 Walnut Street, Philadelphia, Pa. 19104.**

*An Equal Opportunity Employer*

**Endocrinologist, Immunochemist or Physiologist—** Ph.D. with experience in bio and immunoassay for young, growing firm. Benefits incl. profit sharing and pension plans. Sal. open. Please send resume to: **Director, Biochemex Laboratories, P.O. Box 31, Elmont, N.Y. 11003.**

## NEUROPHYSIOLOGIST

We are seeking a Ph.D. or M.D. to expand our research program in the electrophysiological processes underlying behavior and the action of drugs on the central nervous system.

This position offers a unique opportunity to collaborate with a group of noted scientists on a long-range program of fundamental investigation.

Well-equipped laboratories, competent technical assistance, and an efficient science information department—all contribute to a stimulating, productive environment for the creative scientist. Attendance at scientific meetings and publications are encouraged. Liberal salary commensurate with training and experience.

Please submit your resume in confidence to: **R. W. Kinney, Ph.D., Director of Scientific Employment—**

**SMITH KLINE & FRENCH  
LABORATORIES**

1560 Spring Garden Street  
Philadelphia, Pa. 19101

*An Equal Opportunity Employer*

**RESEARCH ASSISTANT** with M.S. or recent Ph.D., biology or chemistry, for radioisotope program in Veterans Administration Hospital, Albuquerque, New Mexico. This is a 550-bed general medical hospital fully affiliated with U.N.M. Medical School. Beginning salary \$9221 with liberal employee benefits. Address inquiries **Personnel Officer, Veterans Administration Hospital, 2100 Ridgcrest SE, Albuquerque, New Mexico 87108.**

## EXPERIMENTAL ECOLOGIST and FISH PHYSIOLOGIST

Applications are invited for two research positions, (i) Experimental Ecologist, and (ii) Fish Physiologist, with the Fisheries Research Board's new Freshwater Institute on the campus of the University of Manitoba, Winnipeg.

### DUTIES:

#### (i) Experimental Ecologist

To initiate and develop a program of ecological experimental research on freshwater fish, aimed at gaining a fundamental understanding of the factors governing production in lakes. Unique opportunities exist for work on small experimental lakes where fish populations can be manipulated and where accelerated eutrophication processes are being studied.

#### (ii) Fish Physiologist

To initiate and develop a program of fundamental research on the physiology of important freshwater fish species. For both positions there is provision for laboratory work under controlled environmental conditions.

### QUALIFICATIONS:

A Ph.D. from a university of recognized standing and the ability to carry out independent research. Experience in physiology or experimental ecology is desirable.

### CLASSIFICATION and SALARY:

The successful candidates will be appointed within the range of Scientist 2 (\$9,780-\$11,340), Scientist 3 (\$11,750-\$14,560) or Scientist 4 (\$15,340-\$18,200) at a salary commensurate with qualifications and experience. Promotions to positions carrying higher classifications are open to all employees of the Fisheries Research Board of Canada.

### APPLICATIONS:

Applicants should submit a transcript of academic record; a list of publications; a statement of experience, training and personal history; accompanied by the names and addresses of three persons who may be consulted for letters of recommendation. Appointments will be as soon after January 15, 1968 as suitable candidates can be located. Applications should refer to Competition No. WPG-26 and be addressed to **The Director, Fisheries Research Board of Canada, Freshwater Institute, 501 University Crescent, Winnipeg 19, Manitoba.**

# Research Chemist

Starting Salary \$11,306 to \$14,717

To be responsible for the accomplishment of a variety of research and development projects associated with the development of new and more effective protective coatings for Navy use. Assigned projects require from one to three years for completion. Will provide consultative service to Shipyard and other activities on protective coating materials; determine cause of protective coating failures; and initiate R&D project to solve specific problems.

Must be thoroughly familiar with problems in chemistry and physics found in paint and other protective coating materials. B.S. degree in one of the physical or life sciences or engineering including 30 semester hours of chemistry, 6 of physics, plus mathematics through differential or integral calculus; and three years of professional experience, one on a suitable level in the field of paint and other protective coatings required.

Career Civil Service positions with liberal benefits. U.S. citizenship required.

Send resume or SF-7 to: **Employment Division (Code 174-44D), San Francisco Bay Naval Shipyard, Vallejo, California 94592.**

*An Equal Opportunity Employer*

## POSITIONS OPEN

# Clinical Data Management

Winthrop Laboratories, division of Sterling Drug Inc., a major manufacturer and distributor of prescription drugs, has an excellent opportunity for an individual to coordinate and develop clinical research data for computer processing to develop workable information.

Qualified candidates should have a knowledge of computer capabilities, biostatistics and FDA regulations.

Excellent salary and employee benefits.

Location: Sterling's world headquarters—New York City

Submit, in confidence, a detailed resume with salary requirements to Robert E. Gronau

## STERLING DRUG INC.

90 Park Avenue

New York, N.Y. 10016

An equal opportunity employer / A plan for progress company

# Steroid Biochemist

Large pharmaceutical research institute needs a Steroid Biochemist, with Ph.D. degree, to direct a research group in the study of steroidogenesis and steroid metabolism as part of the endocrine research program.

The Sterling-Winthrop Research Institute is the research division of Sterling Drug Inc., one of the world's largest producers of medicinal agents. Sterling Drug manufactures professional, consumer and industrial products identified by more than a thousand brand names. The Institute employs over 600 people and is engaged in a very active pharmaceutical research program. It is near Albany, on a plateau overlooking the Hudson River Valley.

Salaries open. Excellent employee benefits include educational assistance at local colleges. Travel and moving expenses paid.

Send complete resume to C. E. Alford, Director of Personnel

## STERLING-WINTHROP RESEARCH INSTITUTE

Rensselaer, New York

An Equal Opportunity Employer

## STERILIZATION SPECIALIST

Environmental Control

Candidate must have degree in Bio-Engineering, Chemistry, Bacteriology or related discipline. Should have the ability to work effectively with line & staff personnel on major operational assignments relating to sterilization and environmental control.

Excellent salary & fringe benefit program.

After training period in the East, position would be in the Southwest area.

Submit resume in confidence to: Mr. T. J. Murphy

# Johnson & Johnson

RESEARCH

New Brunswick, New Jersey

An Equal Opportunity Employer

## UNIVERSITY OF VICTORIA Department of Chemistry

Applications are invited for the following positions: (a) Two full or associate professorships, one in Inorganic Chemistry, the other in Organic Chemistry, to date from 1st July 1968. Applications, together with the names of three referees, should arrive not later than 1st February 1968. (b) Post-doctoral fellowships. (c) Graduate research studentships/teaching assistantships leading to the degrees of M.Sc. and Ph.D. Applications under (b) and (c) will be considered at any time. Further details of the appointments, and of this rapidly expanding university, may be obtained from Dr. A. C. Riddiford, Head, Department of Chemistry, University of Victoria, Victoria, B.C., Canada.

Applications are invited for posts in (a) Mycology, (b) Marine Biology, (c) Vertebrate Physiology, (d) Cell Physiology or Cell Biology.

One or more appointments may be at the rank of Professor. Current minima: Professor, \$14,500; Associate Professor, \$11,500; Assistant Professor, \$9,200. Teaching and research. Appointment and salary from July 1st; duties commence September 1st, 1968. Ph.D. required. Removal grant available.

Laboratory Instructors (preferably with Master's degree or course work for it completed) will also be appointed.

Application with curriculum vitae and names of three referees should be sent to Dr. W. Gordon Fields, Head, Department of Biology, University of Victoria, Victoria, British Columbia, Canada.

## POSITIONS OPEN

## POSITIONS OPEN

### Announcement of Position:

Professor of Physics and Chairman of Department. Ph.D. in experimental physics, and college teaching experience. Salary is competitive and negotiable. Address Dr. Charles Wells, Director, Division Arts and Sciences, State University College, Oswego, New York.

## GRADUATE STUDY

**GRADUATE STUDY IN PHARMACOLOGY.** A program leading to the Ph.D. degree involving course work and research training which stresses research on fundamental mechanisms of drug action on neural, neuro-humoral, membrane transport, and endocrine systems using electrophysiological, biomedical and computer techniques. Full stipend and tuition available. Early application for September 1968 strongly advised. Department of Pharmacology, Schools of Medicine and Dentistry, State Univ. of N.Y. at Buffalo, 122 Capen Hall, Buffalo, N.Y. 14214.

## PRE- AND POSTDOCTORAL FELLOWSHIPS: EXPERIMENTAL PATHOLOGY

Emphasis on cellular, ultrastructural, biochemical and biophysical investigation of disease, including liver diseases, chemical and viral carcinogenesis, human oncogenesis, demyelinating diseases, drug induced diseases, and endocrinopathies. Predoctoral training leads to Ph.D. in Experimental Pathology.

Write: Dr. H. A. Edmondson, Dept. of Pathology, University of Southern California, School of Medicine, Los Angeles, California 90033.

**Predocctoral and Postdoctoral Appointments in Biochemical Crystallography** available in a training program conducted jointly by the University Crystallography Laboratory and the Dept. of Biochemistry and Nutrition (postdoctoral appointments now available; predoctoral for Sept. 1968). The appointees will become familiar with latest x-ray crystallographic equipment and methods. The Crystallography Lab has 1130 and 1620 computers, and has use of 7090 and 360/50 in University Computer Center. Excellent biochemistry facilities in newly enlarged, modern, air-conditioned building. Appointments cover stipends, dependency allowances, and tuition. Address inquiries to Chairman, Department of Biochemistry and Nutrition, Graduate School of Public Health, University of Pittsburgh, Pittsburgh, Pa. 15213.

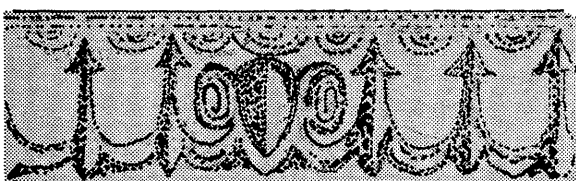
## PREDOCTORAL ASSISTANTSHIPS AND TRAINEESHIPS IN MICROBIOLOGY AND IMMUNOLOGY

Excellent opportunities for chemistry and biology majors to do graduate work leading to the Ph.D. Ample stipends and free tuition. Training and research in immunochemistry, immunogenetics, molecular and cell biology, virology, mycology and bacteriology. Write for details to: Dr. Sheldon Dray, Head, Department of Microbiology, University of Illinois at the Medical Center, P.O. Box 6998, Chicago, Illinois 60680.

**Predocctoral Fellowships in Physiology**—Training leading to the Ph.D. with special orientation in physiological control systems, cardiovascular, temperature regulation, endocrinology and neurophysiology. Emphasis upon preparation for academic careers combining teaching and research. Stipends with tuition and dependency allowance available to qualified undergraduates in engineering, biology, chemistry, mathematics or physics. A maximum of five new students accepted each year, maintaining a low student-advisor ratio. Detailed information from: The Department of Physiology, Loyola University, 706 S. Wolcott Ave., Chicago, Illinois 60612.

## FELLOWSHIPS

**Predocctoral Fellowships in Medical Physics** Opportunities are available to do graduate work in the basic medical sciences including radiation biology, radiation physics, bioastronautics, and the clinical use of radioisotopes. Fellowship support is offered for study programs leading to the M.S. or Ph.D. degree in medical physics. Stipends vary with training and dependents. Write to Chairman, Department of Radiology, Center for the Health Sciences, University of California, Los Angeles, California 90024.



# WHAT'S YOUR RETURN ON INVESTMENT?



**CONSIDER** your income as return on an investment made up of your education, accomplishments, and your total experience and you find that you capitalize out to a suprisingly large sum.

**INVEST** your talents in a company for immediate rewards with a sound plan for long-term growth.

**MELPAR, INC.** started with 35 employees in 1945 and has grown to over 3,000 highly qualified technical, support, and managerial personnel. And we are backed by the vast resources of the Westinghouse Air Brake Company.

**THINK** also about the enjoyment you can get from your investment. Don't squander your investment on unimportant work; receive a full measure of satisfaction and growth by working in areas of *advanced electronics, aerospace systems, and the physical and life sciences* ranging from *basic research to design and development* — always advancing the frontiers of technical knowledge and applications.

Our professional staff likes the return on its investment. While most positions require an advanced degree, or considerable directly related experience, there are also openings with equivalent growth potential for recent graduates.

**READY TO INVEST?**

WRITE IN COMPLETE CONFIDENCE TO:  
Professional Investment Manager



## MELPAR, INC.

(A SUBSIDIARY OF WESTINGHOUSE AIR BRAKE CO.)  
7791 Arlington Blvd. • Falls Church, Virginia 22046

**IMMEDIATE OPENINGS FOR:** Physicists, Electrical Engineers, Programmers, Mathematicians, Mechanical Engineers, Designers-Ceramists, **IN THE AREAS OF:** Simulation and Training, Applied Electronics, Electronic Warfare, Avionics, Transportation Systems, Astro Systems, Electronic Research, Systems Analysis. **ALSO POSITIONS FOR:** Chemists, Biochemists, Virologists, Biologists, Veterinarians, in our Bio-Sciences Research Center.

*an equal opportunity employer m/f*

## Career Openings with IBM in Metropolitan Washington, D. C. Area

Here's your chance to join exciting new programs in the Biotechnology field at IBM's Space Systems center in Bethesda, Maryland.

IBM has been investigating manned and unmanned space applications, creating career openings in such fields as biology, microbiology, and biosciences.

Work would involve the application of the various biotechnology disciplines to meet immediate and future space missions.

**Chemist/Chemical Engineer** BS, MS or PhD or equivalent experience for position involving implementation of space technology experimentation and instruments by computer techniques. Should have strong technical background in instrumental applications. Prefer strong applications background and ability to work on feasibility and conceptual design. Experience in space technology desirable.

**Biochemist** PhD or equivalent for position involving biochemical studies in connection with biological and biomedical aspects of space flight. Experience with

clinical biochemical procedures and enzymology desirable.

**Biologist** MS or equivalent experience for position involving application of biology to experiments in space flight. Research background with knowledge of experimental design desired.

**Bioinstrumentation Engineer** BS, MS or PhD or equivalent experience for position involving application of instrumentation procedures and instrumentation development for space applications design and development experience in space is essential.

Please write, outlining your qualifications and interests to:

Mr. J. F. Ryan  
IBM Corporation  
Department WP9-M  
18100 Frederick Pike  
Gaithersburg  
Maryland 20760

# IBM

An Equal Opportunity Employer

## Medical Research Associates SYSTEMS ANALYSTS-PROGRAMMERS

Openings exist for medical research associates or assistants as systems analysts and/or programmers in the Medical Research Data and Information Systems Unit. M.S. degree or equivalent in experience in mathematics, computer sciences or systems analysis desirable. Biomedical background or experience also desirable but not essential if talent and interest are high. Work includes dealing with automated aspects of major medical research data files as well as specific project oriented needs in a challenging environment with research colleagues and modern computer equipment.

Send complete resume to W. A. Vandenberg  
Technical Employment Representative

**Upjohn**

**THE UPJOHN COMPANY**

301 Henrietta St. Kalamazoo, Michigan 49001  
An equal opportunity employer

### DIRECTOR OF BIO STATISTICS

Statistician with training or background in the biological or pharmaceutical sciences. Will have responsibility for design of clinical studies of new drugs & analysis of pre-chemical and clinical data for submission to regulatory agencies. Will develop this area as well as application to computer evaluation. Excellent opportunity for qualified candidate.

New facilities in pleasant suburban community. Ph.D. or equivalent with appropriate bio statistical exp. Submit curriculum vitae and salary requirements to:

Leonard S. Brahen, Ph.D., M.D., Medical Director.

**ENDO Laboratories, Inc.**

1000 Stewart Ave., Garden City, N.Y. 11530

An Equal Opportunity Employer

## The Market Place

NOW AVAILABLE FROM STOCK  
**THE 1967 ISOTOPE INDEX**

(The Complete Purchasing Guide to the Isotopes)  
Paperback \$10, Hardbound \$12, Microfiche \$10/set.  
(Shipped Postpaid in USA when check accompanies orders)

SCIENTIFIC EQUIPMENT CO.

P.O. Box 19086-S, Indianapolis, Indiana 46219

### • HYPOPHYSECTOMIZED RATS

Shipped to all points via Air Express  
For further information write

HORMONE ASSAY LABORATORIES, INC.  
8159 South Spaulding Ave., Chicago 29, Ill.

### JR. SCIENTIFIC SUMMER

EXPLORE western history and natural history in the Sierra Nevada & Great Basin. Ecological studies in mountains, desert, antelope refuge & forest research reserve. Strong riding, swimming, crafts. Challenge to alert boys & girls 10-14. Five-week session, July 16 to Aug. 20. No discrimination.

Dr. & Mrs. Richard G. Miller, 621 Rt. 1,  
Carson City, Nevada 89701. Code 702, 882-1728,  
WASHOE PINES RANCH

## TRACE ELEMENT PROBLEMS?

Contact: Activation Analysis Service,  
Dept. A-129, General Atomic Division,  
General Dynamics, P.O. Box 608, San  
Diego, California 92112. Or phone:  
Area Code 714, 453-1000, Ext. 613.

## VISIBLE, NEAR IR, AND 10.6μ LASER COMPONENTS IN STOCK

also

- FUSED SILICA LENSES
- MONOCHROMATORS
- INTERFERENCE FILTERS
- NEUTRAL DENSITY FILTERS
- PHOTOMETERS
- SPECTRAL LAMPS

WRITE FOR OUR



CATALOG NO. 23

ORIEL OPTICS CORPORATION  
1 MARKET ST., STAMFORD, CONN. 06902  
Area Code 203-348-4247

Circle 96 on Readers' Service Card

## HISTOLOGY SERVICE

**RAPID SERVICE** Large Orders Quickly Processed! Quickly Shipped! Professional supervision of every order. Free estimates on special problems. Distant points serviced swiftly. Special stains and techniques available. Full protected shipments. **HISTOLOGY SERVICE, INC.** 4801 N. Broad St., Philadelphia, Pa. Zipcode 19141. (215) DAvenport 4-5800.

## HISTOPATHOLOGY SERVICE

Prompt service. Special stains, macrosections, and other special techniques by arrangement. Professional supervision. Reasonable rates. Write:

**HISTOLAB**

Box 642, New Brunswick, New Jersey 08901

## SPECIAL LIGHT SOURCES

- Mercury Point Sources
- Raymaster Blacklight (long and short wave ultraviolet)
- Sodium Vapor
- Mercury Vapor
- Zirconium, Xenon, Deuterium and Hydrogen Arc Lamps
- Imported Spectral Lamps
- Photochemical or High Intensity "Uviarcs"
- Auxiliary Operating Equipment for above

WRITE FOR FREE CATALOG OR CONTACT YOUR LABORATORY SUPPLY DEALER

# GATES

GEORGE W. GATES & CO.  
LUCILLE AVE., FRANKLIN SQUARE, L.I., N.Y.

Circle 97 on Readers' Service Card





IN THE SERVICE OF SCIENCE



# The Answer is the Ultrorac<sup>®</sup>!!!

The NEW ULTRORAC is the smallest fraction collector with a 200 standard test-tube capacity.

Having rugged precision it is as dependable as the world-famous RadiRac. Remove a ten-tube rack, it continues working — put it in the cold, it continues working — treat it roughly, it continues working — preset the run to end at 50 fractions and it stops at your command.

We guarantee it for 3 years too.

- ✓ Designed to Save Space
- ✓ Designed for Coldroom use
- ✓ Designed for Standard test tubes
- ✓ Compact, removable electronic unit for remote control
- ✓ For time, drop and volumetric capabilities
- ✓ Stainless steel column-support rods — polypropylene racks
- ✓ Provision for event marking
- ✓ Power outlet for flow pump



LKB INSTRUMENTS INC. • 12221 PARKLAWN DRIVE • ROCKVILLE Md. 20852

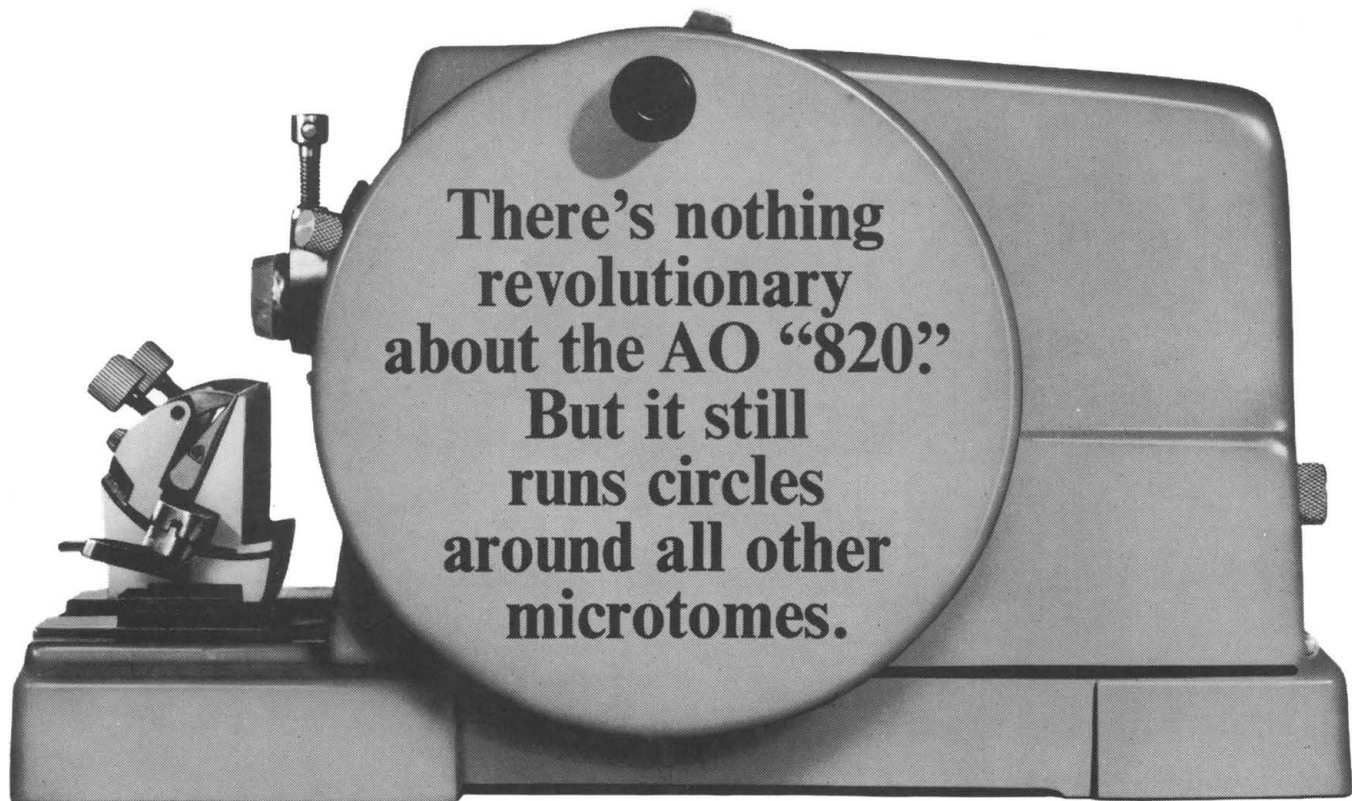
OTHER  
HEADQUARTERS  
FOR SALES  
AND SERVICE

SWEDEN  
LKB-Produkter AB  
Box 76,  
Stockholm—Bromma 1

UK  
LKB Instruments Ltd.  
232 Addington Rd.  
S. Croydon, Surrey CR2 8YD

NETHERLANDS  
LKB-Produkten N.V.  
Zeekant 35,  
The Hague

DENMARK  
LKB Instrument A/S  
Amagerbrogade 34,  
Copenhagen S



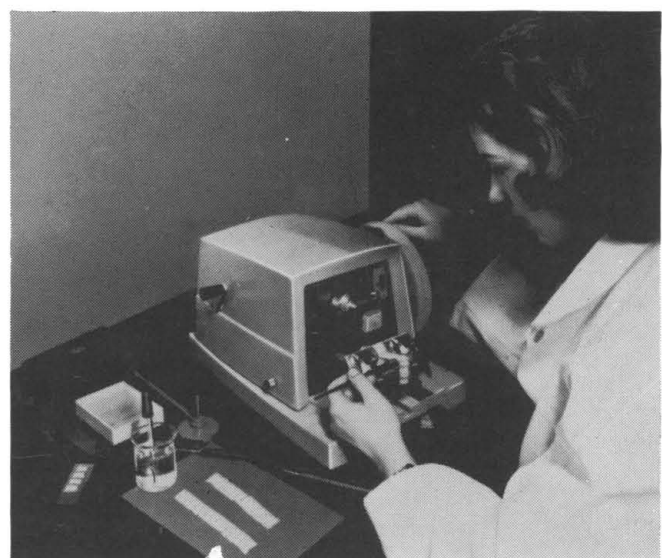
We've made a few improvements in the styling of the American Optical "820" Rotary Microtome, but fundamentally it's the good old "820" users have learned to depend on for many years. That's why it's still the best.

For your convenience, we've moved the feed indicator up front and added a wheel-locking device for greater safety. The cover is now sturdy, light-weight aluminum, and it's hinged so you can clean and lubricate the inside with ease. These refinements plus closer-than-ever assembly tolerances, make the "820" Microtome even better.

The operating principle and feed mechanism of the "820" remain unchanged. Precision mechanism smoothly feeds the specimen to a keen, rigidly mounted blade for sectioning from 50 microns down to one micron.

If you are one of the few not presently using an AO "820" Microtome, isn't it about time you took advantage of this remarkable tissue-sectioning

performance? Send for our "820" brochure, or see your AO Sales Representative about the best all-around microtome made.



**AMERICAN OPTICAL COMPANY**  
INSTRUMENT DIVISION • BUFFALO, NEW YORK 14215