

AT PFEIFFER,
WE'RE
NARROW-MINDED
ABOUT YOUR
PIPETTES

So narrow-minded, we've just one interest—how to give you extra quality at lower cost in a complete line of pipettes. Highest accuracy. Large, easy-to-read numerals. Permanent, fused markings. Rigid inspection and production controls. Special handling, special packaging. Prompt delivery. Quality that comes only from the specialist—Pfeiffer. For our latest catalog and/or the name of your nearest Pfeiffer dealer, write Pfeiffer Glass Inc., 140 Bennington Drive, Rochester, N. Y. 14616.

PFEIFFER
Glass Inc.

T-550

INDEX TO ADVERTISERS

8 July 1966

Academic Press	108
Ace Glass, Inc.	116
American Science and Engineering, Inc.	228
B&A Laboratory Chemicals, Allied Chemical Corp.	111
Blackstone Ultrasonics, Inc.	216
BRS Electronics	222
Cary Instruments, Applied Physics Corp.	112
Chemical Rubber Co.	219
Coors Porcelain Co.	229
Galileo Corporation of America	225
Gilford Instrument Laboratories Inc.	109
Hacker, William J., & Co., Inc.	231
Hamilton Co.	220
Harford Metal Products, Inc.	228
Hewlett-Packard	110
High Voltage Engineering Corp.	106, 107
Instrumentation Specialties Co., Inc.	225
International Equipment Co.	123
Klett Manufacturing Co., Inc.	232
Labindustries	221
Leeds & Northrup	124
Linde Div., Union Carbide Corp.	115
Manostat Corp.	222
Mathatronics, Inc.	230
Mistaire Laboratories	228
Nalge Co., Inc.	223
Nester/Faust Instruments, Products Div.	229
Nikon Inc., Instrument Div.	117
Nuclear-Chicago Corp.	236
Nuclear Data Inc.	235
Nutritional Biochemicals Corp.	103
Optics Technology Inc.	114
Packard Instrument Co., Inc.	126
Pfeiffer Glass Inc.	231
Photovolt Corp.	220
Professional Tape Co., Inc.	224
Radiochemical Centre	216
Revco, Inc., Industrial Products Div.	232
Sanborn Div., Hewlett-Packard Co.	227
Sargent, E. H. & Co.	102
Schleicher, Carl & Schuell Co.	226
Scientific Products	224
Tenney Engineering, Inc.	225
Texas Instruments Inc.	118
Tracerlab	122
Unitron Instrument Co.	113
Yellow Springs Instrument Co.	226

A MAJOR BREAKTHROUGH IN ULTRA-MICROTOMY

INSTANT
TOTAL
ARREST OF
THERMAL
ADVANCE
at touch of button...

EXCLUSIVELY WITH THE



ULTRAMICROTOME "OM U2"

ADVANTAGES:

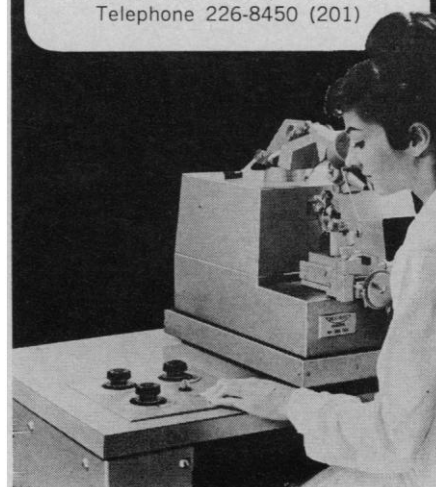
Instant total arrest of thermal advance eliminates time-consuming repositioning of knife and specimen and combines accuracy of thermal advance with advantages of precision mechanical feed. You merely "dial" for automatic continuous ultra-thin serial sections. Knife and specimen holders adjust to any position—glass and diamond knives accommodated.

The cutting speed is infinitely variable between 0.5 and 5 mm/sec., and the whole installation is entirely vibration-free.

Hacker

WILLIAM J. HACKER & CO., INC.

Box 646, W. Caldwell, N. J. 07007
Telephone 226-8450 (201)



FREE

specification
and application
information



NEW!
**ULTRA LOW
TEMPERATURE
FACT FILE**

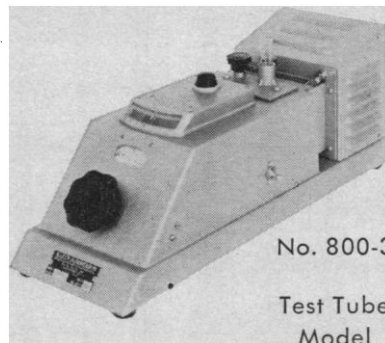
Featuring cabinets from 1½–24
cu. ft. Pulldowns from ambient to
–140°F. (–96°C).

-140°F

Revco cabinets are used the world over for
industrial, medical and scientific research
projects. Send for this **FREE** line and fact
folder today. Chances are there's a Revco cabi-
net just right for your next job application!

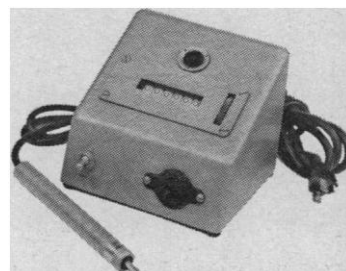
REVCO INC. Dept. 2876
Industrial Products Division • Deerfield, Michigan

Klett Summerson Photoelectric Colorimeter



KLETT COLONY MARKER and TALLY

This instrument takes
the drudgery and er-
ror out of the count-
ing of bacterial colo-
nies.



Klett MANUFACTURING CO., INC.,
179 East 87th Street, New York, 28, N.Y.

PERSONNEL PLACEMENT

POSITIONS WANTED

(a) **Animal Nutrition Ph.D.**; biochemistry, physio-
logy minors; available for research or academic
appointment. (b) **Comparative Biochemistry Ph.D.**
1966; physiology minor; zoology M.A.; radioiso-
tope training; seeks research opportunity. Write
Woodward Medical Personnel Bureau, 185 North
Wabash, Chicago 60601. X

Biochemist, Ph.D. Britain 1964, postdoctoral
University of California seeks academic or re-
search institute position in Canada, Australia,
or New Zealand. Box 140, SCIENCE. X

Business Administrator, medical college, business
and government experience. Minimum \$15,000.
Box 141, SCIENCE. X

Canadian Meteorologist, M.A. or M.Sc. Several
years experience in public, marine, aviation,
arctic, forestry, and agricultural forecasting. Box
142, SCIENCE. X

Clinical Chemistry, M.S. in biochemistry, 16 years
of diversified clinical chemistry experience. Box
143, SCIENCE. X

Microbiologist. Thirteen years experience in
virology and tissue culture, immunology, cancer
research, bacteriology. Desires immediate po-
sition in research or industry. Box 144, SCI-
ENCE.

Organic (Medicinal) Chemist, Ph.D. Pharmacol-
ogy training. Broad experience in CNS, cardio-
vascular, anticancer, antimalarial and autonomic
agents. Desires independent research and initiating
new program. Box 146, SCIENCE. X

POSITIONS WANTED

Neuroanatomist Ph.D., neurophysiology minor,
postdoctoral and medical school teaching experi-
ence, publications, grants, seeking academic or
research position. Box 145, SCIENCE. 6/15

POSITIONS OPEN

**Agronomy, Soil Science, Plant Physiology or Hor-
ticulture Scientist** for independent research on
plant nutrition and fertilizers including literature
and green house studies for expanding major
chemical firm in desirable mid-Atlantic location.
Ph.D. degree with commercial agronomic research
and field experience preferred. Start \$12,000 to
\$15,000 year with excellent advancement potential.
Placement fee paid. Send résumé to **Woodward
Medical Personnel Bureau, 185 North Wabash
Avenue, Chicago, Illinois 60601.** X

INTERNATIONAL MINERALS AND CHEMICAL CORPORATION

BIOLOGISTS

B.S., M.S. and Ph.D. research and field positions
ranging from basic and applied laboratory re-
search on insect pathogens to field positions
requiring training and/or experience in agronomy,
entomology, marketing and/or sales. Exceptional
opportunities with unusual growth potential. In-
quire Personnel Manager:

Bioform Division
International Minerals and Chemical Corporation
P.O. Bin B, Wasco, Calif. 93280
An equal opportunity employer

POSITIONS OPEN

**PHYSICISTS, MATHEMATICIANS,
OPERATIONS RESEARCH ANALYSTS,
CHEMISTS, STATISTICIANS,
RESEARCH ENGINEERS, AND
SYSTEMS ANALYSTS**

see the results of their work in action at
The CENTER for NAVAL ANALYSES
of The Franklin Institute

where they help the Navy coordinate
sea, air, undersea, and amphibious
forces in various phases of vital Naval
operations.

CNA studies are used as part of the
decision-making apparatus on such mat-
ters as future force and systems require-
ments, disposition of forces, tactics, strat-
egy, weapons evaluation and logistics.
Staff members formulate mathematical
bases for new tactical and operational
procedures... derive testing procedures
... aid in formulating operational re-
quirements... develop and test mathe-
matical models.

CNA is a private scientific organization
engaged in operations research and
systems analysis for the U.S. Navy and
Marine Corps.

CNA offers opportunities for professional
growth and recognition and for perform-
ing stimulating work vital to national
security.

For an interview, send letter and resume to:
James S. Hibarger
CENTER FOR NAVAL ANALYSES
1401 Wilson Blvd., Arlington, Va. 22209
An equal opportunity employer

POSITIONS OPEN

BIOSTATISTICIAN

Rapid expansion of this nationally known chemical corporation has created a growth position within our Pharmaceuticals Division.

Applicants should have master's degree or equivalent training plus experience in the biomedical field.

As a part of an active program of drug research emphasizing clinical investigation—duties will include: design of experiments, analysis of biomedical and medical data, and preparation of technical reports which demand clear and concise presentation of statistical data.

All replies will be held in confidence. We invite you to explore this opportunity by submitting a resume with your salary history and requirements to: PERSONNEL DIRECTOR



GEIGY CHEMICAL CORPORATION

Saw Mill River Road, Ardsley, New York
An Equal Opportunity Employer

BIOCHEMIST

579-bed university affiliated hospital has challenging opportunity for a biochemist with M.S. degree to supervise biochemistry staff. Experience in diagnostic biochemistry desirable. Individual and cooperative research projects available. Extensive automation equipment in use. Salary open. Box 147, SCIENCE

Male or Female—Laboratory Assistant
B.A. degree (minimum) in biology or chemistry. To handle specified tasks involving manipulation of embryonic material, preparation of reagents, solutions, and media, and assigned microcinematographic tasks; 40-hour week, numerous fringe benefits. Send résumé to:

M. B. Kennedy Personnel Director
Educational Services Incorporated
55 Chapel Street, Newton Mass. 02160
An Equal Opportunity Employer

RESPIRATORY PHYSIOLOGIST

HAZLETON LABORATORIES, a leading independent company specializing in the Life Sciences, needs a Ph.D. with 0-3 years' experience to conduct, design, coordinate, and evaluate animal research programs in the field of respiratory physiology and inhalation toxicology. Opportunity for scientific meetings attendance and publications. Liberal employee benefit program including profit sharing. Salary commensurate with experience and education. Please send resume to: Hall A. Acuff, Assistant Personnel Manager, Hazleton Laboratories, Inc., P.O. Box 30, Falls Church, Virginia 22046.

An Equal Opportunity Employer M/F

NEW ZEALAND SENIOR RESEARCH FELLOWSHIPS

Applications are invited for Senior Research Fellowships to be taken up in New Zealand in 1967. Applicants should possess a Ph.D. degree, or an equivalent qualification, or whilst not having such qualification have a distinguished record of scientific research. The fellowships are intended for research workers who have had several years professional experience and have published original material. There is no age limit and no restriction regarding nationality, but successful applicants must meet New Zealand immigration requirements. A good working knowledge of English is required.

The Fellowships will be awarded for research at any of the branches of the New Zealand Department of Scientific and Industrial Research. They will be tenable for periods of between six months and one year initially, but may be extended to a total period of two years. The value of each Fellowship will range between £1,735 and £2,295 a year, with an additional £250 a year for a married man. These amounts are taxable. (N.Z. £1 approximately equals \$2.80 or £1 sterling.) A grant for return fares by surface transport to New Zealand at tourist class rates is payable to each Fellow, and an allowance of two-thirds of this grant may be paid where a fellow is accompanied by his wife. While in New Zealand reasonable travelling expenses incurred in connection with the Fellow's research work will be paid.

Application forms and further particulars are obtainable from:

The New Zealand Scientific Liaison Office,
Africa House, Kingsway, London, W.C.2, England.

The New Zealand Embassy, 19 Observatory Circle, Washington 8, D.C., U.S.A.

The Office of the High Commissioner for New Zealand, Suite 804, Commonwealth Buildings, 77 Metcalfe Street, Ottawa, Ontario, Canada.

The Department of Scientific and Industrial Research, P.O. Box 8018, Wellington, New Zealand.

Applications should reach New Zealand by
30 September 1966.

POSITIONS OPEN

Predoctoral Assistantships and Traineeships in Physiology

Excellent opportunities for graduate students leading to the Ph.D. Ample stipends and free tuition. Training and research in endocrinology, gastrointestinal, water and electrolyte metabolism, cardiovascular, sensory physiology, biophysics and bioengineering. Write for details to:

Head, Department of Physiology
University of Illinois at the Medical Center
P. O. Box 6998
Chicago, Illinois 60680

VETERINARIANS

Program leading to M.S. and Ph.D. degrees in microbiology with emphasis on applications of biochemistry, biophysics, immunochemistry and isotopes to the study of infectious animal diseases. Stipends \$6825. Contact Dr. G. T. Dimopoulos, Department of Veterinary Science, Louisiana State University, Baton Rouge, Louisiana 70803.

POSITIONS OPEN

ASSISTANT CHIEF CHEMIST & SPECTROSCOPIST—

Steel plant analytical laboratory needs man well versed in ferrous spectroscopy to head laboratory using vacuum direct reading spectrograph in analysis of iron and steel and to assist in the supervision of conventional analytical laboratory. B.S. in Chemistry or Chemical Engineering and background in optics, electronics and mathematics necessary. Five to ten years experience in modern emission spectroscopy desirable but not essential. Previous supervisory experience desirable. Ability to assume leadership and technical versatility important. Salary open. Box 148, SCIENCE

CITY OF JOHANNESBURG PROPOSED NEW MUSEUMS OF MAN AND SCIENCE POST OF DIRECTOR

Applications are invited for the post of Director of the Museums of Man and Science which are to be established in the near future.

The Museums are to be housed initially in temporary premises pending the erection in due course of a permanent home therefor.

The Museum of Man will aim to promote the study of Man on the continent of Africa, from his earliest beginnings up to the present day, with emphasis on the anthropological, archaeological, medical and ecological aspects.

The Museum of Science will illustrate the history and development of pure and applied sciences up to the present day, including special reference to science as applied in industry and mining in South Africa.

The Director will be responsible for the direction of both Museums to an independent Board of Governors, and will initially be required to advise the Board on the establishment and planning of the Museums and to conduct a campaign with the object of stimulating public interest in the project and raising the funds necessary to finance it.

The remuneration will be within the range R4,500 - R6,000 (£2,250 - £3,000) and will depend upon the relevant qualifications and experience of the successful candidate, who will be appointed for a contractual period.

The possession of suitable academic qualifications or relevant experience in museums or academic institutions will be a recommendation.

Applications giving full particulars and indicating the earliest date upon which duty can be assumed should be forwarded so as to reach the Clerk of the Council, Municipal Offices, P.O. Box 1049, Johannesburg, by not later than noon on Friday, the 29th day of July 1966.

RESEARCH PSYCHOLOGIST-PHARMACOLOGIST

Research position exists with one of the world's leading drug manufacturers. We desire a Ph.D. in Psychology or Pharmacology to participate in research on the behavioural effects of drugs.

The individual should have no less than one year of experience in behavioural pharmacology or psychological drug research. Dissertation research will be given credit for direct experience if it is applicable to behavioural pharmacology.

You are invited to investigate this opportunity at Abbott Laboratories—whose philosophy and facilities are directed toward scientific professionals with a capacity for growth and originality of thought.

Submit complete resume to:



ABBOTT LABORATORIES
North Chicago, Illinois 60064

An Equal Opportunity Employer

POSITIONS OPEN

EDITOR - ASSISTANT

College degree required. English or journalism major. Must have experience in all aspects of scientific journal production including editing, proof-reading and layout. Knowledge of statistics preferred. Send resume to Mrs. Jane Burdick, Personnel Director, American Hospital Association, 840 North Lake Shore Drive, Chicago, Illinois 60611

An Equal Opportunity Employer

IMMUNOLOGY TECHNICIAN

Skilled, enthusiastic technician for full time research in a highly productive immunogenetics-immunohematology laboratory. Experience in blood grouping mandatory. Experience in agar diffusion, chromatography, column chromatography, gel filtration desirable. Salary \$7080-\$8694 depending on past experience. Liberal retirement benefits. Write to:

H. Hugh Fudenberg, M.D., Director
Hematology Research Laboratory
University of California School of Medicine
San Francisco, California 94122

INFORMATION CHEMIST

Abbott Laboratories needs an Information Scientist, particularly in the field of chemistry.

- To prepare chemical literature surveys. Develop and implement chemical thesaurus for machine-based indexing systems and program chemical searches.
- To evaluate, abstract, and index scientific literature.

In this position you will have the opportunity to participate in further improvement and expansion of science information activities. M.S. in chemistry or equivalent experience. Experience in information sciences desirable. Salary based on qualifications and experience.

Our location is north of Chicago, on Lake Michigan shore near attractive residential areas. Contact:

Dr. Gilbert F. Otto or
Mr. Edward W. Weidenfeller
Professional Employment



ABBOTT LABORATORIES
North Chicago, Illinois 60064

An Equal Opportunity Employer

FELLOWSHIPS

GRADUATE FELLOWSHIPS IN BIOCHEMISTRY

A limited number of positions leading to Ph.D. still available for academic year 1966-67. Varied department research programs include mammalian and microbial metabolism, enzymology and nucleic acid biochemistry. Annual stipend starts at \$2400 plus dependency allowance and tuition.

Address further inquiries to:
Head, Dept. of Biochemistry, University of Maryland, School of Medicine
Baltimore, Maryland 21201

Postdoctoral Fellowship in protein structure studies available Sept. 1, 1966. Excellent facilities.

Write to: Dr. B. Jirgensons,
Univ. of Texas
M. D. Anderson Hospital and
Tumor Institute
Houston, Texas 77025

POSITIONS OPEN

Biological Research Technicians

Flow Laboratories seeks biological technicians experienced in microbiology, preferably with 3-5 years background in virology and tissue culture. Prefer B.S. or M.S. in biology, but will consider individuals with some college plus heavy experience in the fields cited.

Flow Laboratories is an experienced and a well-established biological research and production organization, headquartered in suburban Washington, D.C. You'll enjoy excellent working conditions, extensive laboratory facilities and solid career opportunities for advancement. Talent, ambition and professional capability are respected and rewarded at Flow.

A liberal starting salary is only one part of the many employee benefits shared by Flow personnel.

Your resume will receive a thorough and prompt review by qualified persons of your own profession. Write directly to Mr. B. Brooke Bright, Personnel Director.

Flow Laboratories, Inc.
12601 Twinbrook Parkway
Rockville, Maryland 20852

An equal opportunity employer

BIO-CHEMIST-SUPERVISOR

For Micro Laboratory in large general hospital. Must have 3-5 years experience. Excellently equipped laboratory. Good working conditions. Salary open. Please send resume with salary desired to:

PERSONNEL DIRECTOR
ST. ELIZABETH HOSPITAL
49 HOPELAND STREET
DAYTON, OHIO 45408

Biological Production and Development

Challenging position in Biological Production and Development for young veterinarian or microbiologist. The successful applicant should have at least a M.S. degree and three years' experience in bacteriological production techniques. Excellent opportunity for individuality and growth with a midwestern pharmaceutical and biological manufacturer. Please send complete resume and approximate salary requirement to: Box 139, SCIENCE

Male—

Laboratory Manager—to organize and run a developmental biology laboratory, perform specified tasks involving manipulation of embryonic material, preparation of reagents, solutions and media. Minimum—B.A. degree in biology or chemistry with experience in some area of development or cell biology, and ability to handle embryological materials. Send résumé and salary requirements to:

M. B. Kennedy Personnel Director
Educational Services Incorporated
55 Chapel Street, Newton Mass. 02160
An Equal Opportunity Employer

Ph.D. BIOCHEMIST

525-bed general hospital with excellent facilities, including automated equipment, has opening for biochemist with experience in diagnostic procedures. Some opportunity for research. Excellent salary and fringe benefits. Write to Personnel Director, St. Joseph Mercy Hospital, Ann Arbor, Michigan.

RESEARCH ASSISTANT

Active Neurosurgical Laboratory in Philadelphia, Pennsylvania, needs ambitious young man or woman, capable of independent research to carry on projects in Intracranial Dynamics, Cerebrovascular Physiology, and Neurophysiology. Exact salary and position dependent on ambition and diligence. Send resume to

Box 149, SCIENCE

UNIVERSITY OF GUELPH DEPARTMENT OF BOTANY

Applications are invited for (a) ECOLOGIST—specializing in Ecosystems and Conservation; (b) GENETICIST—specializing in Fungal Genetics or Molecular Genetics. Teaching will include undergraduate and graduate in fields of specialization and assisting in General Botany or Biology. Appointments will be as of January 1, 1967, and will be at the Assistant Professor level with a salary floor of \$8,500, and adjusted to teaching experience. Applications should be sent to Professor F. H. Montgomery, Head, Department of Botany, University of Guelph, Guelph, Ontario.

POSITIONS OPEN

Microbiologist: M.S. preferred; experience in bacteriology and mycology for centrally located 403-bed accredited general hospital. Salary commensurate with training and experience. Outstanding benefits. Immediate opening. Contact Personnel Office St. Clare's Hospital 415 West 51st Street; New York, New York 10019

Ph.D. (Biochemistry, Pharmacology, or Toxicology)

Apply for unusual opportunity to Personnel Administrator, Connecticut State Department of Health, Hartford, Conn. Submit resume and salary requirements.

An Equal Opportunity Employer

The Market Place

SUPPLIES AND EQUIPMENT

SPRAGUE-DAWLEY, INC.

Pioneers in the development of the
STANDARD LABORATORY RAT.

P.O. Box 4220

Madison, Wisconsin

CE 3-5318

1919 - 1966

LaMotte Chemical

Chestertown, Maryland, U.S.A.

Specialists in

Colorimetric Techniques

Reagents-Standards-Comparators

Send for illustrated Controls Handbook

Dept. H

BOOKS AND MAGAZINES

AUTHORS WANTED BY NEW YORK PUBLISHER

Your book can be published, promoted, distributed by a reliable company on a subsidized basis. Fiction, non-fiction, poetry, scholarly, scientific and even controversial manuscripts welcomed. For Free Booklet write Vantage Press, Dept. SC, 120 W. 31 St., New York 10001.

WRITERS

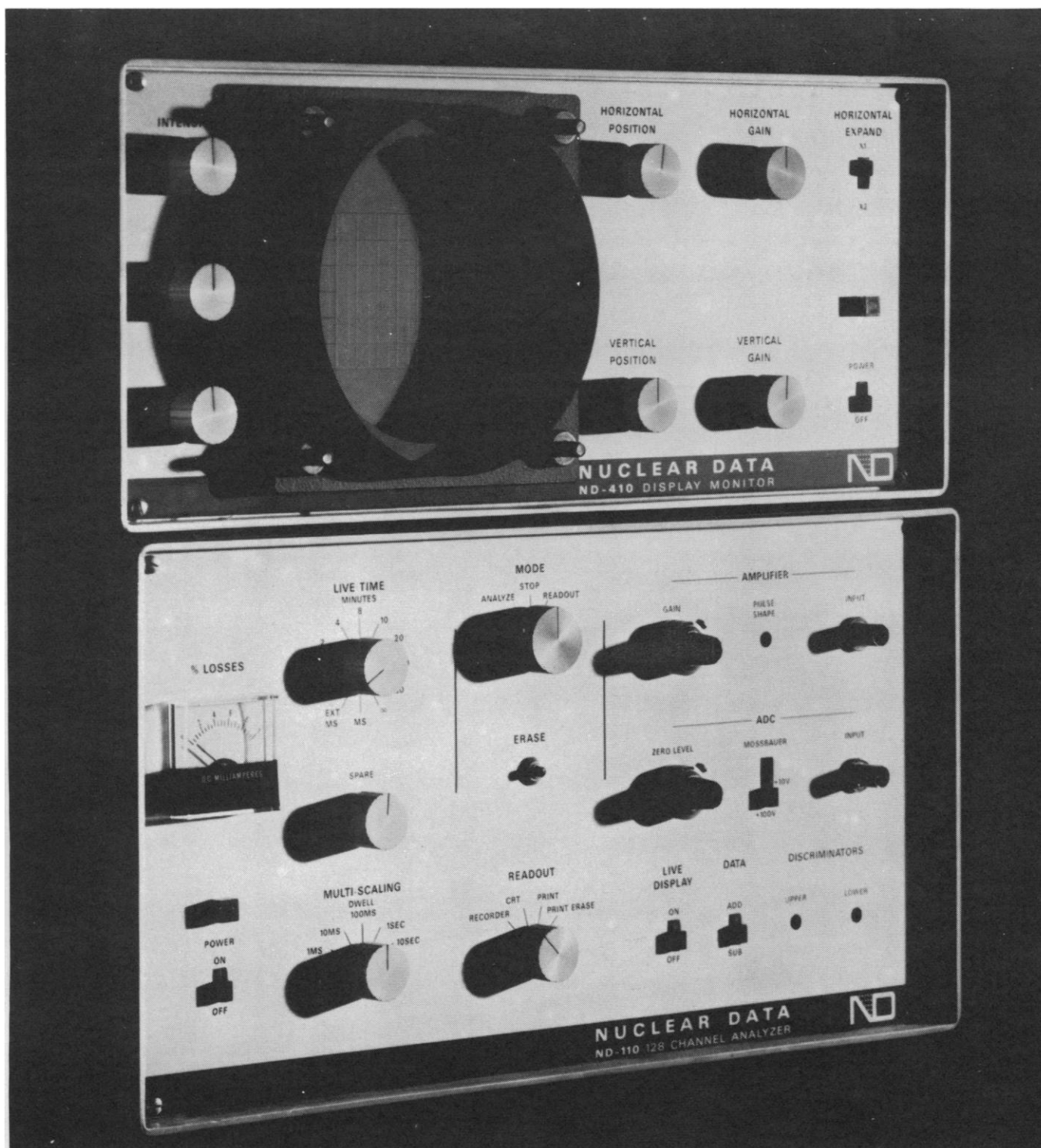
N. Y. publisher wants books on all subjects, fiction, nonfiction. No fee for professional opinion. FREE: Brochures that show how your book can be published, publicized, sold; tips and article reprints on writing, publishing, contracts. Write Dept. 75F

EXPOSITION 386 Park Ave. So., N.Y. 16

PROFESSIONAL SERVICES

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. Fully protected shipments. HISTOLOGY SERVICE, INC. 4801 N. Broad St., Philadelphia, Pa. Zipcode 19141, (215) Davenport 4-5800



This 128-channel pulse height analyzer—yours, at the price of a single-channel unit!

\$3650*, that's all it takes to own the ND-110. And just think how much more you accomplish with a 128-channel instrument:

- 128 channels eliminate the need to position a peak in a "window" and try to hold it there. Readings are fast, clear, accurate.
- In the multi-scaling mode you use the ND-110 as 128 scalers and record events as a function of time. Ideal for studying isotope flow in plants, organs or animals—because you get numbers instead of an analog curve.

• In illustrating energy and half life characteristics of radiation emitted by different elements, the ND-110 shortens experiments. Students can plot the whole energy spectrum and radiation decay in two simple counting operations.

All this and much more with the 128 channel ND-110—just \$3650. Also available with display monitor (shown above), digital printer, shield assembly and scintillation detector (a complete radiation analysis system). *Write for ND-110 literature today.*

*Price for U.S.A. and Canada: Export Price add 10%

ND NUCLEAR DATA INC
120 West Golf Road, Palatine, Illinois 60067

Nuclear-Chicago makes automatic liquid scintillation counting systems, semi-automatic liquid scintillation counting systems, manual liquid scintillation counting systems, automatic planchet counting systems, low-background planchet counting systems, automatic gamma counting systems, large-volume gamma counting systems, small-sample gamma counting systems, paper radiochromatography systems, gas radiochromatography systems, liquid radiochromatography systems, thin-layer-plate radiochromatography systems, scalers, ratemeters, analyzers, analyzer/scalers, analyzer/ratemeters, timers, digital integrators, background subtractors, graphic recorders, amplifier-discriminators, data converters, sample changers, scintillation detectors, gas-flow detectors, geiger tubes, geiger survey meters, ion-chamber survey meters, pocket dosimeters, film badges, sample bottles, liquid scintillation chemicals and standards, radiochemicals, lead bricks . . .

Heard enough?

The point is, we can supply you with everything you need in the way of nuclear systems, instruments, and accessories for life-science research.

Call your local Nuclear-Chicago sales engineer for detailed information on any of the above product categories.

We also have a new 96-page catalog that'll give you a comprehensive look at our complete

line. May we send you a copy? Just write us and ask for Catalog LSR-100.

NUC-D-8-237



**NUCLEAR-CHICAGO
CORPORATION**

349 East Howard Avenue, Des Plaines, Illinois 60018, U.S.A.

Donker Curtiusstraat 7, Amsterdam W, The Netherlands.