The new RIDL Nanolyzer* offers two principal advantages over other presently available multichannel analyzers: speed and accuracy. It can accept, analyze, and store data seven to fifty times faster than conventional analyzers. It will also store at rates of over 200,000 counts per second with a minimum of distortion when NaI(Tl) detectors are used. These benefits are obtained by using several totally new circuit concepts, chief among which are those described at the right.

Of equal importance are the Nanolyzer's convenient operation and the ease of servicing. Its compact packaging has been achieved by using printed circuit boards with Silicon Nand Arithmetic Package (SNAP-LOGIC*) encapsulated circuits. This also contributes to easy maintenance.

The Nanolyzer can be used with all standard readout devices. For more information, please consult your RIDL sales engineer or write for your copy of our 24-page Nanolyzer Brochure.

**THIN-FILM MEMORY**

Plug-in circuit board with 128-word thin-film memory plane.

The high-speed, thin-film memory planes used for data storage are the heart of the Nanolyzer. The memory is word-organized with 256 words of 24 bits each. It can store 10^6 (minus 1) bits of information in each memory location in a 1, 2, 4, 8 BCD code. The memory is located on two identical plug-in circuit boards for simplicity and serviceability. Each plug-in board contains, in addition to a 128-word memory plane, all of the select matrix and memory drivers for that memory plane and preamplifiers for each of the 24-bit outputs.

**100-MC ADC**

The 100-mc Analog-to-Digital Converter uses a radically new technique for pulse-height analysis. By accurately determining when the pulse to be analyzed arrives, a sample of the pulse that is linear and independent of pulse amplitude can be used for analysis. Besides eliminating the annoying linearity problems associated with peak detection, this technique reduces analyzer "open time" to a minimum and provides a time base for subsequent analysis.

**PILE-UP REJECTION**

Cs137 spectra accumulated at high counting rates with and without pile-up rejection circuit.

When the ADC is operated at counting rates exceeding 100,000 counts per second, spectrum distortion due to pile-up will severely limit the usefulness of the accumulated data. Therefore, a pile-up rejection circuit has been incorporated in the ADC to minimize spectrum distortion due to pile-up. Pile-up rejection is accomplished by inspection logic which inspects the ADC baseline just before the pulse arrives and rejects the incoming pulse from analysis if the baseline is not at ground due to pile-up or baseline shift. The chart above compares a typical distortion-free curve obtained with the Nanolyzer using pile-up rejection with a curve of poorer resolution obtained from a conventional analyzer without pile-up rejection.

**ANTIWALK DISCRIMINATOR**

The ADC input circuits use pulse-sampling techniques for accurate data analysis at extremely high counting rates. Difficulties of determining the peak are eliminated by the built-in ANTIWALK* discriminator whose output occurs at the input pulse crossover. The discriminator output determines the start of the sampling period, ensuring a "true" sample independent of pulse height. Timeresolution of 5 to 10 nanoseconds, independent of discriminator level, is typical for this circuit.

*Registered trademark of RIDL  NUC:R-2256

RIDL
RADIATION INSTRUMENT DEVELOPMENT LABORATORY
A DIVISION OF NUCLEAR-CHICAGO CORPORATION
4517 West North Ave., Melrose Park, Ill. 60160
In Europe: Donker Curtiusstraat 7
Amsterdam W, The Netherlands

Scientists and engineers interested in challenging career opportunities are invited to contact our personnel director.
Unidigit™ readout of the 3rd and 4th decimal place shows only one number in each counter window at a time • enlarged optical scale window for easier weighing-in • new style of numbers specially developed for legibility • patented Sensitip™ pan brake quickly stops pan movement even if the load is off center • patented symmetrical air damping prevents optical scale drift • polished jewel arrestment bearings are virtually friction free and assure excellent reproducibility • synthetic sapphire knife-edges and planes are free from distorting pressure • built-in concentric ring weights are made of solid, single piece, non-magnetic, stainless steel • direct-action weight lifting mechanism requires no complicated remote linkages • wide optical scale range increases weighing speed. A new 12-page bulletin describes these balances in detail. Write for your copy to Mettler Instrument Corporation, 20 Nassau St., Princeton, N. J.

New
Digital
Mettler
H Balances
Offer
Unique
Combination
of 15
Features
IBM now offers the most powerful, small, digital computer for less than $700/month

And it's a dandy.

Our new 1130 Computing System can whiz through 120,000 additions per second...handle over a million logic decisions a second.

It can handle engineering design, mathematical models, differential equations, regression analysis, linear programming, matrix algebra, statistics. It can save you time in handling mathematical calculations. It can make it possible to solve problems you haven't had time to solve before.

It's designed for the small budget engineering consultant...university...the small engineering department...the small research lab. Monthly rentals start at $695 for a basic system ($895 with disk storage). The 1130 comes with complete programming support.

The processor has the memory size you need in engineering and scientific processing—either 4,096 or 8,192 16-bit words in the central processor. A new interchangeable disk cartridge gives you direct access on line to over half a million words of data and programs. You can have your own individual program disks. The system moves data on or off the disk at 35,000 words per second.

The 1130 has the speed and the capacity to solve scientific jobs in a hurry. You instruct the system in either FORTRAN or a new 1130 Symbolic Assembler Language. You can use either single or double precision arithmetic or floating point arithmetic.

Automatic parity checking improves reliability of data and instructions in the system.

Full programming support

A monitor program, available with the disk cartridge feature, polices the flow of data and jobs in and out of the system...helps you get most of your work through the system...and simplifies both programming and operation.

A long list of tested applications programs comes with the system. Here's a partial list:

1. The IBM Math Pak

Bessel functions • Fourier series • Integration of first-order differential equations • Numerical integration • Simultaneous equations and matrix inversions • Calculation of Eigenvalues and Eigenvectors • Calculation of gamma function • Calculation of Legendre polynomials • Finding real and complex roots of a real polynomial • Stepwise linear programming

2. The IBM Stat Pak

Analysis of variance • Factor analysis • Polynomial curve fitting • Regression analysis

3. Civil Engineering Coordinate Geometry (CCOG)

4. Petroleum exploration and production calculations

5. Numerical surface techniques and contour map plotting

Special features for technical jobs

You can put data in or get it out of the new IBM 1130 Computing System on paper tape, punched cards, interchangeable disk storage, a console printer, a new 1132 Printer that prints 80 lines of alphanumeric or 110 lines of numerical data a minute.

If you want answers in the form of graphs, charts or maps, hook on an IBM 1627 Plotter. This will give you graphic output on paper, based on X and Y coordinates, at a rate up to 1,800 increments a minute.

You can take your pick of these input/output devices. Choose just the ones you need for your problems.

Add others later if and when your needs change.

The 1130 is a low-cost high-performance information handling tool for the engineer or scientist who needs fast and economical access to a computer.

For more information, call your local IBM office.
THE INFLAMMATORY PROCESS
Volume 1: morphology and biochemistry
edited by B. W. Zweifach, L. Grant, and R. T. McCluskey

- discusses the mechanisms that are mobilized by living tissues to counteract noxious stimuli dealing with the mechanisms of tissue injury
- analyzes the physiological and pathological mechanisms at work behind the response to injury, and treats, in some detail, the immune responses which are implicated in tissue injury (Z940) Spring 1965, about 875 pp.

SCREENING METHODS IN PHARMACOLOGY
by Robert A. Turner

- contains detailed descriptions of most of the modern methods used for the detection of pharmacological activity
- includes modifications of older techniques used in the field
- emphasizes experimental procedures and their biological basis
- compares new agents with classical drugs, and their quantitative comparison by measured responses is given throughout
The book follows a logical progression from the design of the experiment through the technical procedure, to the statistical evaluation of the results. The work is of special interest to pharmacologists, physiologists, medical researchers, teachers and instructors in pharmacology, organic chemists, and laboratory technicians. (T810) March 1965, about 325 pp.

PHYSIOLOGICAL PHARMACOLOGY
A COMPREHENSIVE TREATISE
Volumes 1 and 2
edited by W. S. Root and F. G. Hofman

Reviews of Volume 1:
"Teachers, research workers, and advanced students in pharmacology will find this a valuable book, not simply for reference but actually to read; and one hopes that the later volumes will hit the same style and standard." Science Progress “... will undoubtedly augment the reference material in any library.”—The American Journal of Pharmaceutical Education

Volume 1: The Nervous System—Part A
Volume 2: The Nervous System—Part B

(R630) Volume 1, 1963, 703 pp., $22.00
(R632) Volume 2, Spring 1965, about 475 pp.

EVALUATION OF DRUG ACTIVITIES: PHARMACOMETRICS
Volumes 1 and 2
edited by D. R. Laurence and A. L. Bacharach

(L186) Volume 1, January 1965, 456 pp., $15.00
(L188) Volume 2, Early 1965, 444 pp., $14.00

ADVANCES IN PHARMACOLOGY
Volume 3
edited by S. Garattini and P. A. Shore

ADVANCES IN DRUG RESEARCH
Volume 1
edited by N. J. Harper and A. B. Simmonds

ADVANCES IN PHARMACEUTICAL SCIENCE
Volume 1
edited by H. S. Bean, A. H. Beckett, and J. E. Carless

INTERNATIONAL REVIEW OF EXPERIMENTAL PATHOLOGY
Volume 2
edited by G. W. Richter and M. A. Epstein

** A Continuation Order... assures you of having the latest information in your subject as soon as it is available. We recommend the placing of a continuation order for series and journals as it will authorize us to ship and bill automatically upon publication. It may be cancelled at any time. Please specify volume or number with which your order is to begin.**

SEND THIS ORDER FORM TO:
YOUR TECHNICAL BOOKSELLER
or
Academic Press

PLEASE SEND THE FOLLOWING:

☐ A133  ☐ A177  ☐ A185  ☐ A103  ☐ A196  ☐ A188  ☐ R630  ☐ R632  ☐ T610  ☐ 2940

Name ____________________________
Affiliation ____________________________
Address ____________________________
City ____________________________ State ____________________________ Zip ______

☐ Remittance enclosed ☐ Bill me ☐ Send more information on the following books (use code numbers):

☐ ____________

No charge for postage and handling on orders accompanied by payment. New York City residents please add 4% sales tax.

Academic Press
NEW YORK AND LONDON • 111 FIFTH AVENUE, NEW YORK, N.Y. 10003 • BERKELEY SQUARE HOUSE, LONDON W1 • PHONE 212-OR 76713
MATHMATICS • PHYSICS • CHEMISTRY • BIOLOGICAL SCIENCES • MEDICAL RESEARCH • SPACE SCIENCES • ENGINEERING • PSYCHOLOGY

SCIENCE, VOL. 147
980
New! Throw-Away cylinders for highest purity gases

For the first time, highest purity reagent gases are available in convenient, economical Throw-Away cylinders: no deposit, no demurrage, no transportation charges; at an end-cost often less than that of returnables. Now you can afford to stock cylinders for immediate use. All part of a new service in laboratory gases from J. T. Baker.

These are LINDE gases—the purest obtainable grade of argon, carbon dioxide, helium, hydrogen, krypton, neon, nitrogen, oxygen, and xenon. You can also specify blends of these gases, as well as mixtures with carbon monoxide, methane, krypton85, chlorine, and bromine. All are supplied in Throw-Away cylinders delivering up to 100 liters and in one-liter glass bulbs.

J. T. Baker service ensures quick delivery from supply points in Chicago, Ill., Pittsburgh, Pa., Washington, D.C., Pasadena, Cal., and Phillipsburg, N.J. For prices, specifications and further information, send the coupon.

NEW THROW-AWAY CYLINDER (16-inch height, 4-inch diameter) features less weight, safety of a solid-rim base. Economical to stock for immediate use. Conventional returnable cylinders are top-heavy, easily tipped. Deposit and demurrage charges can rapidly multiply cost.

J. T. Baker Chemical Co.
Phillipsburg, N. J. 08865
Please send me a copy of the J. T. Baker laboratory gases brochure.

NAME__________________________________________________________
POSITION_____________________________________________________
COMPANY_______________________________________________________
ADDRESS_______________________________________________________
CITY_________________STATE___________ZIP_____________________

The term LINDE is a registered trade mark of Union Carbide Corporation.
The "TV Journal" is produced cooperatively by 20 scientific and engineering societies, and will consist of 20 half-hour telecasts. The series is coordinated by the AAAS, and is underwritten by grants from the National Science Foundation and The Timken Roller Bearing Company.

PRO-GRAM NO.  PROGRAM TOPIC                     PARTICIPATING SOCIETY
  1  Air Pollution Control                        American Chemical Society
  2  Supersonic Air Travel                        American Institute of Aeronautics and Astronautics
  3  Lunar Surface Controversy                    New York Academy of Sciences
  4  Environmental Control                        American Society of Heating, Refrigerating and Air-conditioning Engineers
  5  Observatories in Space                       American Astronomical Society
  6  Seeing Inside Metals                         American Society for Metals
  7  Fiber Optics                                 Optical Society of America
  8  Metropolitan Planning and Design             American Society of Civil Engineers
  9  The Particle Jungle                          American Institute of Physics
 10  Operations Research Techniques               American Institute of Industrial Engineers
 11  Topology                                     Conference Board of the Mathematical Sciences
 12  Traffic Control Techniques                   Institute of Electrical and Electronics Engineers
 13  Conflict Resolution Research                 American Psychological Association
 14  Pursuit of Perfection                        American Society for Quality Control
 15  Cholesterol Fats and Heart Disease          Federation of American Societies for Experimental Biology
 16  Information for Effective Engineering        Engineers Joint Council
 17  Communication Among Animals                  American Institute of Biological Sciences
 18  Cryogenics                                   American Institute of Chemical Engineers
 19  Man-made Weather Modification                American Meteorological Society
 20  (to be announced)                            American Association for the Advancement of Science

PROGRAM SCHEDULE

The "TV Journal" will be seen on most of the nation's educational TV stations on a staggered basis. The series will start on the first group of stations during the week of 28 February, and then on another group of stations during the week of 14 March, and so on. Check your local program guide for day and time of broadcast.

<table>
<thead>
<tr>
<th>California</th>
<th>Los Angeles</th>
<th>San Francisco</th>
</tr>
</thead>
<tbody>
<tr>
<td>D. C.</td>
<td>Washington</td>
<td></td>
</tr>
<tr>
<td>Illinois</td>
<td>Chicago</td>
<td></td>
</tr>
<tr>
<td>Louisiana</td>
<td>New Orleans</td>
<td></td>
</tr>
<tr>
<td>Massachusetts</td>
<td>Boston</td>
<td></td>
</tr>
<tr>
<td>New York</td>
<td>New York</td>
<td>Schenectady</td>
</tr>
<tr>
<td>Ohio</td>
<td>Cleveland</td>
<td></td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>Pittsburgh</td>
<td></td>
</tr>
<tr>
<td>Texas</td>
<td>Houston</td>
<td></td>
</tr>
<tr>
<td>Washington</td>
<td>Seattle</td>
<td></td>
</tr>
<tr>
<td>Wisconsin</td>
<td>Yakima</td>
<td>Milwaukee</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alabama</th>
<th>Montgomery</th>
<th>Birmingham</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Cheaha State Park</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dozier</td>
</tr>
<tr>
<td>California</td>
<td>Sacramento</td>
<td></td>
</tr>
<tr>
<td>Michigan</td>
<td></td>
<td>San Bernardino</td>
</tr>
<tr>
<td>Missouri</td>
<td>East Lansing*</td>
<td></td>
</tr>
<tr>
<td>Ohio</td>
<td>Athens</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Columbus</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Newark</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Toledo</td>
<td></td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>Philadelphia</td>
<td></td>
</tr>
<tr>
<td>Texas</td>
<td>Dallas</td>
<td></td>
</tr>
<tr>
<td>Virginia</td>
<td>Norfolk</td>
<td></td>
</tr>
</tbody>
</table>

*Starts 3/13

For more information, write Science and Engineering Television Journal
or call your local educational TV station.

225 West 57 Street, New York 10019

SCIENCE, VOL. 147
Every COREX® pipet and centrifuge tube you buy will serve you for all the rest of 1965—or we'll replace it free

We will replace without charge any quantity of COREX serological, Mohr, or volumetric pipets, and/or centrifuge tubes that you buy and register with us on or after February 1, 1965, which become unserviceable in normal use for any reason before December 31, 1965.

You can't lose. Frankly, we don't think we can, either.

We made a similar, but shorter-term, offer last year on COREX serological and Mohr pipets to allow you to prove to yourself—under your own laboratory conditions—the far greater durability of these chemically strengthened products. We invited you then to prove without risk that this COREX durability means far longer service life and greatly reduced replacement costs.

Were you among the thousands who took us up on it—and proved it to be true? The results are in. Of the thousands of COREX pipets bought during the period of the offer, replacement claims were received for less than half of 1% of the total sales—far fewer replacements than even our actuaries had told us to expect. That's why this year we are extending our free-replacement offer to cover the entire line of COREX pipets and tubes... and to cover all the rest of 1965.

Buy now and register your purchase to take the fullest advantage of this risk-free offer.

Buy with the assurance that, if any COREX pipet or tube you order becomes unusable for any reason—shipping, breakage, clouding, fading—in normal use between now and December 31, 2015, you will get a replacement free.

Now, more than ever, the best buy you can make is COREX pipets and centrifuge tubes. Make it today.

See your Corning representative or your favorite lab-supply dealer salesman for your purchase registration card.

Or send the coupon and we'll send you everything you need to make us prove we mean what we say.

CORNING
THE MAKERS OF PYREX® LABWARE

LABORATORY GLASSWARE DEPT.
Corning Glass Works, 9202 Crystal St., Corning, N. Y.
Please send me details on your COREX® ware free-replacement offer.

Name ________________________________
Title ________________________________
Organization _________________________
Dept. ________________________________
Address _______________________________
City________ State____ ZIP________

26 FEBRUARY 1965
Polaroid's latest film brings you information from the infrared in 15 seconds.

It's called Polaroid Type 413 Land Infrared Film. Its spectral sensitivity extends from the visible into the infrared beyond 9000Å, peaking at 8400Å. Its development time is 15 seconds.

Being able to see your infrared pictures on the spot has important advantages. You can go ahead with testing or experimentation uninterrupted. If you need a record of spectrographic data, for example, you've got it then and there. Picture A--arc emission spectra, 6000Å-8800Å—is an example of the sharp, detailed record you get after a 15-second pause in operations. (Top and bottom records are CN spectra, middle record is a copper spectrum.)

Also, if your picture requires special or elaborate equipment, Type 413 film saves you the risk of having to set it up twice. Picture B, for example, a microspectrograph of the cones of the retina, required the use of infrared lighting because visible light causes bleaching of the pigments. The scientist who took it saw his results immediately and knew he had a perfect picture while his set-up was still intact.

While on-the-spot recording is the most important advantage of this remarkable new film, it isn't the only one. Type 413 film is also three times as sensitive as conventional infrared films. Its A.S.A. equivalent speed is 800 without filters. Since this permits faster shutter speeds and smaller lens apertures, the film is ideal for applications like aerial photography. In Picture C—an aerial shot of a potato field used for plant pathology testing—you can see how clearly the film was able to record the fungus-infected areas (dark rectangles) using an extremely fast exposure setting. Shot was made at f/32 and 1/300th of a second.

And Type 413 film is as easy to use as any other Polaroid Land film. It can be used in almost all standard Polaroid Land cameras and camera backs using Series 40 film and the procedure is the same. Just snap the picture, pull the tab, and peel off the finished print in 15 seconds. Because it's as simple as that to use, the film will enable technicians and other personnel who may not be trained photographers to take perfect infrared pictures whenever they're needed. Picture D, for example, a record of the infrared reflectance of concrete curing compounds, is a type of photograph often called for in materials testing—and any Sunday photographer could have filled in and done the job.

Because of these advantages, Type 413 film will have wide use in almost every field of industrial and scientific photography. In laser research, spectrographic analysis, specialized industrial photography where heat is a factor, plant pathology, general medical research—wherever there is a need to investigate the infrared.

If you would like to know more about our latest film, write to: Sales Department, Polaroid Corporation, Cambridge, Mass. 02139.

Polaroid Corporation
What's the BIG IDEA in Industrial Sterilizers?

Castle's INDUSTRIAL POWERCLAVE Sterilization Systems

They're a new idea in industrial sterilizers—offering outstanding flexibility, safety, and ease of operation. The PowerClave design features the famous Electrilock Door—an easy-to-operate, safe and rapid closure system that assures you more loads per working day.

Industrial PowerClave systems offer a wide choice of controls—from manual operation units to highly sophisticated automatic units (including steam, high vacuum and ethylene oxide gas). You get today's widest choice of chamber sizes and the PowerClave System can be engineered to meet almost any industrial application. Why not find out more about how Industrial PowerClave can help solve your problems. Write Wilmot Castle Company, 1702 E. Henrietta Rd., Rochester, New York 14602.
MEASURING LIVING CELLS?

The Leitz INTERFERENCE MICROSCOPE is a superior research instrument designed to enable precise quantitative analyses of isotropic and anisotropic subjects, such as living cellular and subcellular structures. Unique double-beam optics superpose light interferences over a highly magnified image of the microscopic media. Thus, precise measurement of transparent and seemingly structureless subjects can be performed without staining, fixing, or other procedures that could cause significant morphologic changes in the specimen.

The object and control beams are optically identical and separated by 62 millimeters to completely eliminate ghost and double images. This wide-beam separation ensures unobstructed control of the comparison light. A continuously variable band width and the rapid-band orientation permit maximum measuring accuracy and superior adaptation to the object. A polarizing device for the orientation of anisotropic media is an integral part of the microscope.

Write for further information about this special-purpose microscope designed by Leitz to meet the requirements of your advanced histochemical investigations.

E. Leitz, Inc., 440 Park Avenue South, New York, N.Y. 10016
Distributor of the world-famous products of Ernst Leitz G.m.b.H., Wetzlar, Germany—Ernst Leitz Canada Ltd.
LEICA AND LEICINA CAMERAS • LENSES • PROJECTORS • MICROSCOPES

E. Leitz, Inc., 440 PARK AVENUE SOUTH, NEW YORK, N.Y. 10016

Distributor of the world-famous products of Ernst Leitz G.m.b.H., Wetzlar, Germany—Ernst Leitz Canada Ltd.
LEICA AND LEICINA CAMERAS • LENSES • PROJECTORS • MICROSCOPES

988

SCIENCE, VOL. 147
The acceptance of the original Gammascope in a wide variety of applications has prompted the development of an even more versatile system — the Gammascope II. The basic concept of a low cost, self-contained 100-channel Pulse Height Analyzer has been retained. New circuitry, housed in a more compact cabinet, now adds inputs for multiscaling and Mössbauer effect studies. New output circuits permit readout on virtually every type of analog and digital equipment. The Gammascope II truly offers the physicist, chemist or biologist an instrument equally useful for class room demonstrations or exacting experiments. (Gammascope 101 is still available for applications where its features are especially useful.)

4 Switch Selected Operating Modes

100-channel analysis — this provides a high resolution spectrum analysis of charged particles. Scale expansion provides resolution equivalent to 800 channels for storage of a selectable portion of the spectrum. In this capacity the Gammascope will effectively replace the single-channel spectrometer in nuclear medicine, radio-chemistry, and nuclear physics research.

Single-channel analysis — window controls on the Gammascope permit selection of an energy range of interest intensified on the multi-channel spectrum display. With controls set for the range of interest, the instrument provides pulses in that range for counting on an external scaler. Pulses selected by the window can also be used for counting in the multi-scaler mode, or for sampling of the velocity signal in Mössbauer studies.

Multiscaling — the Gammascope provides 100 channels of multiscaling with 8 selectable dwell times from 0.1 to 1000 milliseconds. The single-channel window selects pulses of the desired energy range, which are then automatically stored in successive channels corresponding to a preset time interval. Multiscaling is particularly useful in half-life studies of short-lived isotopes and for investigation of Mössbauer effects.

Mössbauer Analysis — The Gammascope is equipped with an input for an analog signal. In addition, in the Mössbauer mode pulses from the detector can be fed to the single-channel analyzer. The output is used to sample the velocity signal by the analog to digital conversion circuitry, thus providing a count in the channel corresponding to the instantaneous amplitude of the velocity. This mode of operation eliminates the necessity for precise timing by the counting channels and the Mössbauer drive, thus greatly simplifying demonstration of Mössbauer effects.

Specifications
Inputs: high level — 0-10 volts (0-100 volts optional); low level — up to 50 mv, at max gain, polarity negative
Output: compatible with x-y plotter, digital printers, typewriter, paper tape punch, external visual displays, and IBM compatible magnetic tape system.
Memory capacity: 10–1 counts per channel
Mössbauer Input: ± 2 volts
Displays: Live: during data accumulation. Static: stored data
Preset Time: live times from 0.1 to 400 minutes and infinity

For full details on the GAMMASCOPE II, contact your nearest TMC office or write Technical Measurement Corp., 441 Washington Avenue, North Haven, Connecticut.

NOW

Gammascope II
WITH 4 OPERATING MODES

- 100 channel pulse height analysis
- Simultaneous single-channel pulse height analysis
- Multiscaling
- Mössbauer analysis

See us at the 16th Pittsburgh Conference on Analytical Chemistry, at the Penn-Sheraton, Pittsburgh, March 1-5
A wide variety of radioactive L-Amino Acids uniformly labeled and specifically labeled is available from NENC. Most are available from stock at very high specific activity and all bear NENC’s guarantee of purity.


A new Journal
Appearing as from January 1965

"Metrologia" is published 4 times a year. The four issues constitute a volume at the price of US $8.50. Contributions in English, French, German and Spanish will be published.

Published under the auspices of the International Committee of Weights and Measures

Published by Springer-Verlag Berlin · Heidelberg · New York:

metrologia

Journal International de Métrologie Scientifique
International Journal of Scientific Metrology
Internationale Zeitschrift für wissenschaftliche Metrologie

Please enter my subscription with ______ copies of metrologia
☐ Payment enclosed ☐ Charge my established account Add New York sales tax where necessary
☐ Please send me a leaflet and catalogs in this field

Name
Address
City State Zip No.

Or to your bookseller

SPRINGER-VERLAG NEW YORK INC.
175 Fifth Avenue
New York, N.Y. 10010

26 FEBRUARY 1965
gree to which the wider sharing of wealth in Vicos has liberated the poor (by local standards), who made up 92.3 percent of the serf population in 1951 from exploitation not only by the manor lessor and by mestizo merchants in nearby towns, but also by the 7.7 percent of the serf popu-
lation that owned enough cattle to command ready cash under the manorial system. Cash income permits new peasants to hire draft animals instead of waiting until the ox-wealthy farmers finish preparation of their own fields; it allows them to purchase fertilizers instead of begging animal owners to graze their stock on the suppli-
cants' fields, or watching soil fertility and crop production decline. Moderni-
ization has materially equalized personal relations in Vicos.

P. L. Doughty (Indiana) discussed interrelations between power, respect, affection, and rectitude values in Vicos. He emphasized that in 1951 the peo-
ple of Vicos were very subordinate in Peruvian society. The hierarchical or-
ganization of the manorial system affected every aspect of the life of a serf. Being regarded as property and infrahuman, serfs received no respect
from members of the dominant group. Their only source of affection was the family, in which individual worth was reckoned largely in economic terms; and affection suffered in competition with the drive for survival. Regarded as immoral and outside the national legal system, Vicos serfs shared very few rectitude values with other Per-
uvian citizens. Their own self-image was negative.

The impact of the Cornell Peru Project has been markedly reflected in improving interpersonal relations. With abolition of servitude, payment of wages, and encouragement of initiative, Vicos Indians began to feel increased personal dignity, worth, and status. They began to deal more effectively with outsiders and to develop their poten-
tial abilities. With the acquisition of land, one major value of still-tradi-
tional Peruvian society, the new peasants of Vicos automatically acquired greatly enhanced status as landowners. The firm economic production base has contributed to a growth of community pride and prestige, regionally and na-
tionally. Improving control over en-
vironment develops growing respect for the individual within the family and
great amelioration in the position of children.

J. O. Alers (Cornell) pointed out that the strategy of development at Vicos, although not by intention, has followed the alternative of devoting major available resources to the de-
velopment of education and the econ-
omy, while leaving health improvements that tend to lower the death rate at the lowest priority. He noted that the level of anxiety has risen among Vicos males as modernization proceeds.

As a demographer, Alers stressed the threat posed to the economic and social progress thus far achieved in Vicos by the increasing population and the effect of the resultant population density on the agricultural land base. He expects the future development of Vicos to be greatly enhanced if the new peasants are able to employ politi-
cal influence at the highest levels of the Peruvian government. This will be possible only if the people increase their literacy in order to form an effec-
tive voting bloc and if their aug-
mented wealth enables them to orga-
nize themselves and similar rural com-

---

#### RESPIRATION PUMPS

A number of respiration pumps are available for use with a wide variety of laboratory mammals ranging from mice to dogs. All are of the positive pressure, piston type, drawing room air or non-explosive gas mixtures into a cylinder and delivering air or gas
to the animal under pressure. Volume and stroke rates are continuously adjustable. Separate pathways are provided for inspired and expired air.

<table>
<thead>
<tr>
<th>CAT. NO.</th>
<th>RATE</th>
<th>VOLUME</th>
</tr>
</thead>
<tbody>
<tr>
<td>607</td>
<td>7.50 strokes/min.</td>
<td>30.750 cc./stroke</td>
</tr>
<tr>
<td>670</td>
<td>20-200 strokes/min.</td>
<td>2.5-100 cc./stroke</td>
</tr>
<tr>
<td>680</td>
<td>30-200 strokes/min.</td>
<td>0.2-10 cc./stroke</td>
</tr>
</tbody>
</table>

Write for Bulletins 607, 680 and Catalog

---

#### LINEAR MOTION TRANSUDCERS

FEATURES

1. Allows linear recording of motion
2. Ideal for measuring a minimum of motion at low frequency
3. Low friction (50 mgcm)
4. High sensitivity
5. Reliable and accurate
6. The ST1 can be connected to any suitable recorder.

ST1 Linear Motion Transducer, with-
out micrometer—Isotonic Measurement only
Cat. No. 70-534-55

ST2 Linear Motion Transducer with-
out micrometer—Isotonic or Isometric
Measurement
Cat. No. 70-534-60

Converter—An exciter-demodulator for use with D.C. or Servo type record-
ers
Cat. No. 70-534-70

PHIPPS & BIRD, INC.
Manufacturers & Distributors of Scientific Equipment
6th & Byrd Streets — Richmond, Virginia

---

1064
Steri-Vac Model 100H is designed to meet the sterilization needs of biological laboratories and research institutes as well as those of hospitals and clinical laboratories.

In a single compact unit, sterilization can be accomplished in 48 minutes... articles sensitive to heat and moisture in three hours!

Steri-Vac is an entirely new concept in gas sterilization, utilizing a disposable Steri-Gas ethylene oxide cartridge. Steri-Vac requires no fixtures or plumbing... It's portable and operates on standard electrical current.

LOOK TO

FOR CREATIVE APPLICATIONS
IN MODERN STERILIZATION

ADVANCED PRODUCTS CORPORATION
624 WORCESTER TURNPIKE
Framingham, Massachusetts
617 (area code) 969-5555

European Headquarters:
69 Wimpole Street, London W 1, England

FROM LIPPINCOTT...

Revised Editions of Important Scientific Reference Works

BACTERIAL AND MYCOTIC INFECTIONS OF MAN
Edited by René J. Dubos, Ph.D.; and James G. Hirsch, M.D. With 41 Contributors.

41 top scientists and physicians take stock of present-day theory and practice in medical microbiology. The book includes, among many changes, sweeping revision and updating of the sections on: general aspects of infectious diseases, the individual bacteria, and the material on mycoses and fungal infections. "... of great value... to everyone interested in infectious diseases..." (Perspectives in Biology and Medicine) "... extremely valuable for the developing specialist in viral and rickettsial science." (Science) "... a valuable adjunct to the bacteriology laboratory." (Federation Proceedings)

1026 PAGES 202 ILLUSTRATIONS
NEW 4th EDITION, 1965
$14.50

VIRAL AND RICKETTSIAL INFECTIONS OF MAN
Edited by Frank L. Horsfall, Jr., M.D.; and Igor Tamm, M.D. With 51 Contributors.

51 authorities pool their knowledge to bring a classic abreast of the latest findings in its field. Covers the revolutionary advances in our understanding of the RNA and DNA viruses and important new data on the structure and epidemiology of specific diseases. "... a work to which all students of biology should have access." (The Biologist) "... a very valuable contribution to the fields of viral and rickettsial research... information which otherwise would have to be taken piecemeal from an enormous literature." (The Yale Journal of Biology and Medicine)

About 1200 Pages About 135 Illustrations
New 4th Edition Ready Late Spring, 1965

J. B. LIPPINCOTT COMPANY
East Washington Square
Philadelphia, Pa. 19105

Please send me:


Name

Address

City State Zip Code

☐ Payment Enclosed
☐ Bill Me

S-2-26-65
Another New Product of Nalge Research

Masterpiece of Efficiency

the Nalgene Filter Pump

Engineered by Nalge and proven by actual tests, the unique design makes this the most efficient aspirator pump available anywhere...of any material...at any price. No other pump achieves so high a vacuum so quickly. No other pump delivers full vacuum with such minimal water consumption. No other pump can operate so efficiently at water pressure as low as 7.5 psi.

Molded of polypropylene, it's tough and rugged. With remarkable strength and chemical resistance, it is unaffected by highly corrosive materials. An integral check valve prevents feedback.

The Nalgene Filter Pump is priced very low, only $1.50 each. Assortable with other Nalgene labware for maximum discount. Get all the facts on this masterpiece. Ask your lab supply dealer for substantiating proof of its outstanding performance, or write Dept. 21141, The Nalge Co., Inc., Rochester, New York 14602.

Nalgene Labware
Leader in quality plastic labware since 1949

Science, Vol. 147

In closing the session, Lasswell stressed the contribution of the Vicos project to the policy-science technique of prototyping, which he distinguished from experimentation: although the papers were couched in terms of value-category analysis, their general tenor was of prototyping.

Allan R. Holmberg
Henry F. Dobyns
Department of Anthropology, Cornell University, Ithaca, New York 14850

Forthcoming Events

March


1-5, National Council on the Aging, 14th annual, Washington, D.C. (NCA, 49 W. 45 St., New York, N.Y. 10036)

1-5, Society of Plastics Engineers, annual, Boston, Mass. (G. P. Fong, c/o Sweetheart Plastics Inc., Guildwood Park, Wilmingtion, Mass.)


4-5, Fundamental Cancer Research, 19th annual symp., Univ. of Texas, Houston. (D. N. Ward, Univ. of Texas Medical Center, Houston 77025)

4-6, Central Surgical Assoc., Milwaukee, Wis. (C. E. Lischer, 457 N. Kingshighway, St. Louis 8, Mo.)

5-6, Congenital Malformations of the Central Nervous System, intern. colloquium, Paris, France. (J. Chevieux, c/o Service de M. le Prof. Leon Michaux, Hôpital de la Salpêtrière, Boulevard de l'Hôpital, Paris)

5-7, American Assoc. of Pathologists and Bacteriologists, Philadelphia, Pa. (M. I. O'Connor, Williams and Wilkins Co., 428 E. Preston St., Baltimore, Md. 21202)


7-10, International Acad. of Pathology, 54th annual, Philadelphia, Pa. (F. K. Mostofi, Armed Forces Inst. of Pathology, Washington, D.C.)

7-10, Mineralogical Assoc. of Canada, 10th annual, Toronto, Ontario. (J. A. Mandarino, Dept. of Mineralogy, Royal Ontarrio Museum, 100 Queen's Park, Toronto 5)


8-10, Calibration, intern. conf., Leipzig, Germany. (Kammer der Technik, Ebertstr. 27, Berlin W8)