

15¢

\$5.50 A YEAR

August 18, 1956

VOL. 70, NO. 7

PAGES 97-112

SCIENCE NEWS LETTER

®

THE WEEKLY SUMMARY OF CURRENT SCIENCE



Reactor Plane

See Page 103

A SCIENCE SERVICE PUBLICATION

NOT TILL 1971

will MARS be again so close for you to view!

See MARS Sept. 6th

Observe the Red Planet with this 50mm Telescope! It has been many years since Mars has been so close and it won't be so favorable to view for another 15 years. Take advantage of this opportunity. Mars can be seen clearly for only a few months preceding and afterwards. Order this Telescope now to practice for best results on September 6. 50mm Telescope comes complete with movable tripod magnification 50x. Already assembled. 15 lbs.



Complete
\$39.95
F.O.B., N. Y.

60mm Telescope

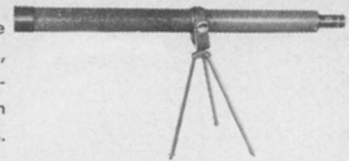
Extraordinarily fine refracting instrument. Precise controls. Image is erect—not upside down. No wavering. Azimuth clamp. A valuable addition to any laboratory, school or scientific household. 3 Eyepieces—89x, 64x, 40x, Sun Glass and Tripod. 20 lbs.



Complete
\$99.95
F.O.B., N. Y.

40mm Telescope

A clear, accurate stable telescope for planets, stars or ground observation. Complete with Tripod and Case. 20 lbs.



Complete **\$19.95** F.O.B., N. Y.

WRIST RADIO



Complete
\$29.95

Weight: 2.5 Oz.

A broadcast band all-transistor radio has been designed with RF reflex circuit to provide good selectivity and sensitivity. In moderate signal strength areas, no antenna is required up to a distance of 25 miles from a broadcast station of average power. Good consistent reception can be obtained over 35 miles with the use of a wire from 6 inches to 3 feet. The use of transistors makes it a rugged device not subjected to tube breakage. Rugged high quality components are used throughout. Normally the transistor will not have to be replaced for the life of the instrument. Extreme economy of operation is obtained through the use of special circuitry requiring very low current, thus prolonging the life of the mercury cells. The small size makes it the ideal radio. It can be worn on the wrist where it easily fits under the sleeve of a jacket or worn in a shirt pocket.

Oliver Garfield Co., Dept. 5L-43
126 Lexington Ave., New York 16, N.Y.

Please send me: 60 mm Telescope \$99.95
F.O.B., N. Y. 50 mm Telescope \$39.95
 40 mm Telescope \$19.95

Wrist Radio \$29.95 Postpaid
GENIAC Construction Kit & Manuals
 \$19.95 East of the Mississippi
 \$20.95 Elsewhere in U. S.
 \$21.95 Outside U. S.

My name and address are attached.

GENIAC® ELECTRIC BRAIN

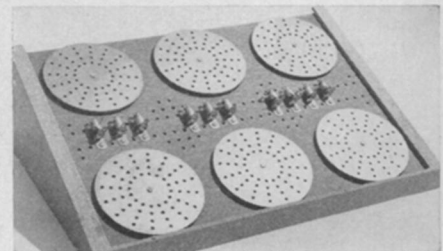
COMPUTES, PLAYS GAMES, "REASONS", COMPOSES MUSIC

BUILD IT YOURSELF in a few hours!

Here's a wonderful kit that gives you a fascinating introduction to the logic machines of our modern age! The devices you can build test intelligence, code and decode, count, play Tic-tac-toe, solve problems! Converts from binary to decimal—reasons in syllogisms—computes!

APPLICATIONS OF GENIAC

SIMPLE COMPUTER CIRCUITS for binary decimal adding, subtracting, dividing, multiplying machines. PROBLEMS in symbolic logic, reasoning, comparing. INTELLIGENCE TESTING and EXPERIMENT. GAME PLAYING CIRCUITS for tic-tac-toe and nim. ACTUARIAL ANALYSIS. NEW! COMPOSE MUSIC—work out your own tunes automatically!



WHAT COMES WITH THE KIT?

1—SIMPLE ELECTRIC BRAINS, AND HOW TO MAKE THEM . . . 64 page experimental manual. 2—MINDS AND MACHINES . . . 200 page text on computers, automation and cybernetics. 3—WIRING

WHO ARE OUR CUSTOMERS?

Remington Rand • International Business Machines
Barnard College • Westinghouse Electric • Albert
Einstein Medical College • Naval Research Laboratories
• Kansas State University • Duke University • Bell Telephone Laboratories • Hundreds of Junior and Senior High Schools

DIAGRAMS for basic GENIAC circuits. 4—BEGINNERS MANUAL. 5—GENIAC study guide . . . the equivalent of a full course in computer fundamentals, lists additional readings. 6—Over 400 parts and components with plastic "PARTS TRAY". Returnable in seven days for full refund if not satisfied.

Books Worthwhile Reading

SCIENCE
SERVICE
PUBLICATIONS

Special Offer Saves 37%: Complete Set of 7 Items—Only \$6.50

ATOMIC FACTS

Just the information about atomic energy that you need to know. Easy to read chapters and fundamental information arranged for easy reference. The H-Bomb . . . Our Atomic Future . . . Structure of the Atom . . . How Atomic Bombardment Works . . . Birth of Matter . . . Neutron-Proton Exchange . . . Mesons Created in the Cyclotron . . . The Atomic Nucleus . . . Electron Shells . . . Units of Mass, Charge and Energy . . . Atomic Energy Common, Fire Rare . . . Atomic Energy Progress . . . Atomic Energy Engineering . . . Uranium Prospecting . . . Radioactive Wastes . . . Acute Radiation Illness . . . Isotopes Report Reactions . . . Photographing Nuclear Particles . . . Radiation Detection Instruments . . . In Case of Disaster . . . Naming the Isotopes . . . First Tracer Chemistry . . . Prediction of the Neutron . . . The First Tritium . . . Slow Neutron Bombardment. Fully indexed, cloth bound. Edited by Helen M. Davis. 112 p. Postpaid \$2.00

ORGANIC CHEMISTRY FOR THE HOME LAB

Learn to think chemically . . . Mauve, the first aniline dye, was discovered one hundred years ago by a young chemist who followed where his curiosity led him. You can make this and other beautiful dyes, interesting plastics, fundamental chemicals, by following these clear directions . . . a handy book, written by Burton L. Hawk, which not only tells you how to make individual chemical products, but gives you general methods and shows you how to apply them to new problems. Edited by Helen M. Davis. 100 p. Postpaid \$2.00

SCIENCE EXHIBITS

Science Exhibits tells you how to select your material, how to plan its presentation, how to display, to label and to light it, how to describe the work you have done, how to tell about it so that those who think science is "too difficult" will understand and share your enthusiasm . . . Contains new samples of research project reports of the Science Talent Searches conducted annually by Science Service for the Westinghouse Science Scholarships. These reports have been selected by the Science Talent Search judging staff as outstanding for subject and method of presentation . . . Describes the Science Youth Movement carried on by Science Clubs of America. This organization, comprising more than 15,000 Science Clubs in the high schools of the country, encourages young people's enjoyment of doing science projects,

culminating in the local and National Science Fairs. This organization is *doing something* to ameliorate the shortage of young scientists, technicians and engineers. Fully indexed, cloth bound. Edited by Helen M. Davis. 96 p. Postpaid \$2.00

THE CHEMISTRY WE USE

A compilation of "Home Lab" experiments, a monthly feature of CHEMISTRY magazine. Written by Burton L. Hawk . . . and designed for a simple but adequate home laboratory in which real chemical preparations can be made . . . The World We Live In, The Air We Breathe, The Water We Drink, The Food We Eat, The Clothing We Wear, The Coins We Spend, The Drugs We Take, Lesser-Known Elements We Study, Other Materials We Use . . . A Practical Introduction to the Chemistry of Everyday Things. Fully indexed, cloth bound. 87 p. Postpaid \$2.00

SCIENTIFIC INSTRUMENTS YOU CAN MAKE

How teen-age scientists have designed and built astronomical instruments, spectrosopes, Tesla coils, oscilloscopes, cloud chambers, atom counters, Van de Graaff generators, electronic computers, stroboscopes, and demonstrated ultrasonics, chromatography, photomicrography and mathematical constructions. Illustrations show the completed instruments. References guide the reader to research in the fields opened by use of these instruments. Fully indexed, cloth bound. Edited by Helen M. Davis. 96 p. Postpaid \$2.00

LAWS OF MATTER UP-TO-DATE

A new edition of the list of fundamental laws of physics which have been changed as the result of new discoveries of the atomic age. By Helen M. Davis, editor of CHEMISTRY magazine. Postpaid 100 copies for \$3.00. Each 10c

PERIODIC TABLE OF ELEMENTS

Both the Mendeleev and Bohr arrangements. An up-to-date chart of the chemical elements by groups and series with spaces for new elements through the hypothetical No. 118, which can be filled in as they are announced. By Helen M. Davis, editor of CHEMISTRY magazine. Postpaid 10 copies for \$1.00. Each 25c

To Science Service • 1719 N Street, N.W. • Washington 6, D. C.

Send me publications I have checked below. \$ _____ enclosed.

- | | | |
|---|--|-----------------------------------|
| <input type="checkbox"/> Atomic Facts | <input type="checkbox"/> Scientific Instruments You Can Make | Name _____ |
| <input type="checkbox"/> Organic Chemistry for the Home Lab | <input type="checkbox"/> Laws of Matter Up-To-Date | Address _____ |
| <input type="checkbox"/> Science Exhibits | <input type="checkbox"/> Periodic Table of Elements | City _____ Zone _____ State _____ |
| <input type="checkbox"/> The Chemistry We Use | <input type="checkbox"/> All @ \$6.50. | |

This offer good during August and September only.