

15¢

\$5.50 A YEAR

July 26, 1958

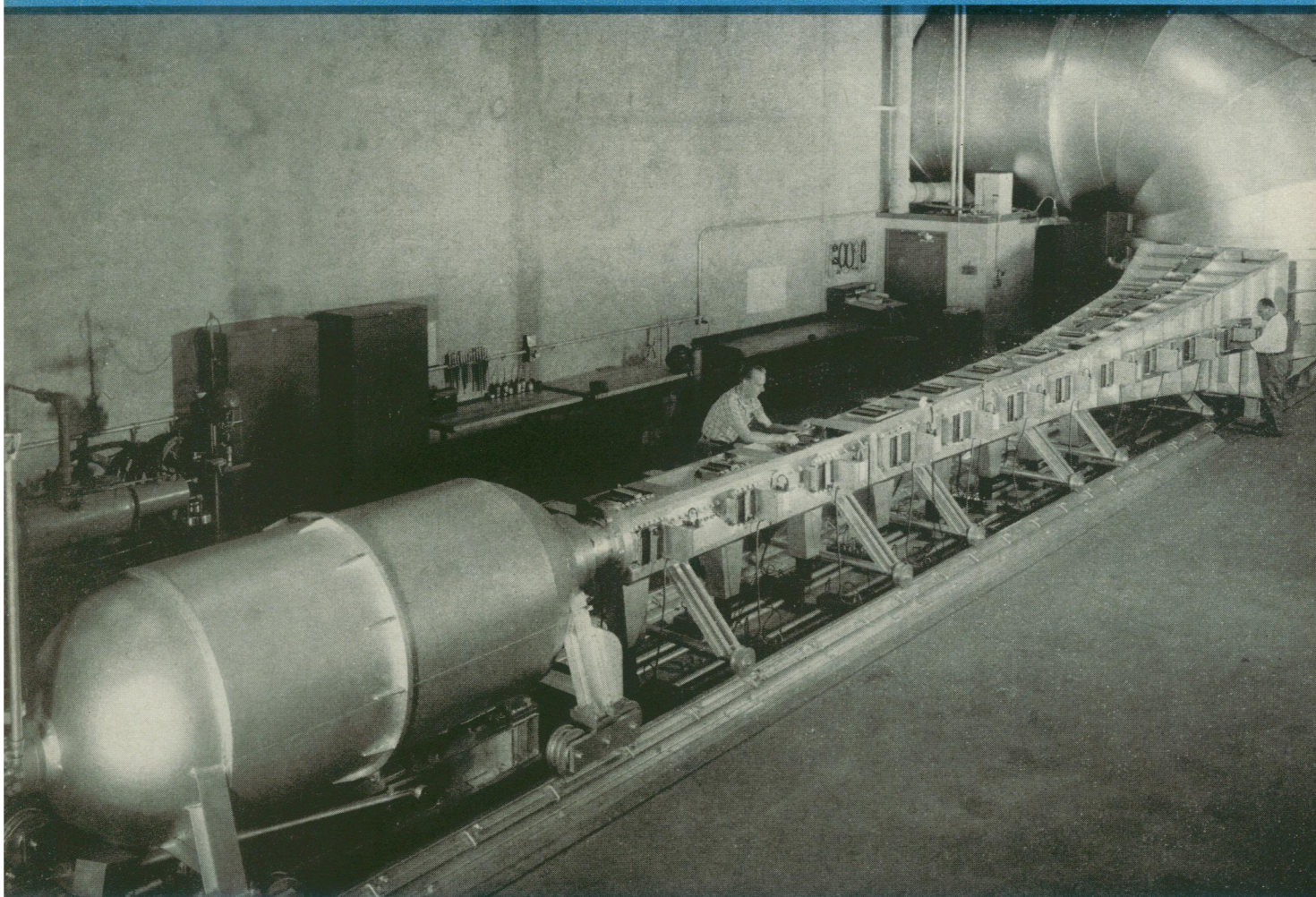
VOL. 74 NO. 4

PAGES 49-64

# SCIENCE NEWS LETTER

®

THE WEEKLY SUMMARY OF CURRENT SCIENCE



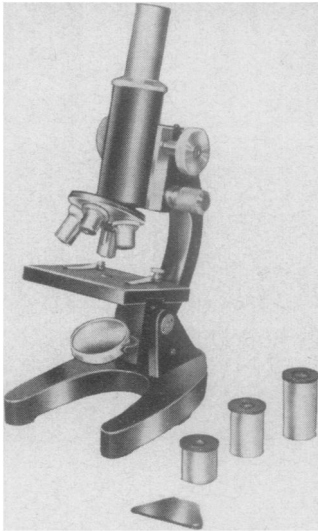
Re-Entry Simulator

See Page 51

A SCIENCE SERVICE PUBLICATION



# MIDSUMMER OPTICAL GOODS SALE!



## 900X "MICROBE HUNTER"

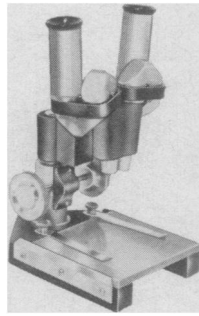
- The only Microscope in its class featuring **GRADE A** optics!
- Power Range 25X, 50X, 75X, 100X, 150X, 200X, 300X, 400X, 600X, 900X
- Full Range Fine Adjustment
- Safety Stop on Coarse Adjustment

This instrument—made to our rigid design specifications—has wide usage in schools, laboratories and law enforcement agencies. All of the most needed features have been incorporated to meet the requirements for diversified micro-studies. Highly recommended for serious hobbyist desiring exceptional quality at modest cost. Power range from 25X to 900X in 12 possible combinations. Geared rack and pinion coarse focusing. Micro-motion fine focusing of full range—12 complete revolutions. Safety stop prevents over rise. 36mm dual surface (plano/concave) mirror. Fixed square stage, 70mm X 80mm. Rotating 5-hole, disc diaphragm. Three Huygenian eyepieces of 5X, 10X and 15X. Four achromatic objectives of 5X, 10X, 40X and 60X. Oversize base insures stability and protects objectives. Body tilts through 60°—perfectly balanced at any angle. Complete with upright, wooden carrying case.

**F-338—List \$69.95 ..... Net \$39.95**  
(Add \$1.00 for postage and handling)

## NEW! 30X-50X "STEREO-SCOPES"

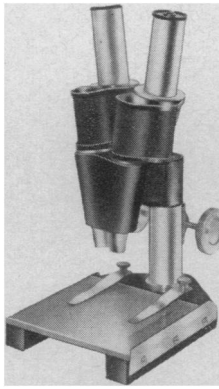
- **STEREOSCOPIC Binocular Dissecting Microscope**
  - **Wide Field 3-Dimension View** • **Two Models to Choose From**
- SEMI-PRO "STEREO-SCOPE"**: An especially engineered instrument featuring the stereopsis and wide view field needed in biology — petrography — archeology — mineralogy — criminology — industry — agriculture — etc. Indispensable for inspection of large specimens — small parts — surface features of gross objects — dissection — etc. Fixed objective lenses and interchangeable eyepieces for a choice of either 30X or 50X. Prismatic binocular head with full interpupillary adjustment. Ground glass stage 3 3/16" x 3 5/16". Oversize modified horseshoe base. Rack and pinion focusing. Automatic stop prevents over rise. Overall height 9 1/2". Complete with fitted wooden carrying case.



**F-337 ..... Net \$29.95**  
(Add 83¢ for postage and handling)

**STUDENT "STEREO-SCOPE"**: A 30X stereoscopic binocular microscope—designed primarily for the student and serious hobbyist. Includes most of the features of our "Semi-Pro" model shown on this page. Fixed objective lenses and non-interchangeable eyepieces. All optics are achromatic. Ground glass stage measures 2 3/4" x 2 13/16". Overall height 7 3/4". Complete with fitted wooden carrying case.

**F-335 ..... Net \$19.95**  
(Add 83¢ for postage and handling)

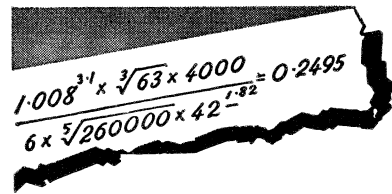
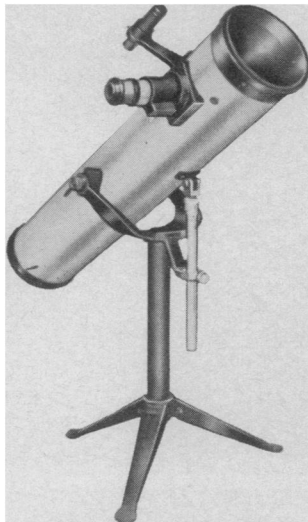


## METEOR 3 1/4" REFLECTOR

- **Extremely Compact**
- **Professional Design**
- **84X, 38X**
- **Rack and Pinion Focus**
- **Micro-Motion Control**

An extremely fine, compact, professionally designed and produced 3 1/4" reflector. Primary mirror is aluminized and quartz overlaid. Secondary mirror is also an extremely bright, aluminized, first surface element. Exceptionally low light loss due to high reflectivity and care in adjustment of secondary reflector. Perfectly achromatic system. Light collecting power is 148X (for the naked eye). Resolving power 1.4". Faintest discernible star 11.4m. Finder scope 4X. Eyepieces are a 20mm coated Ramsden and a 9mm coated Huygenian-Mittenzwey. All metal construction. Body tube white enameled. Altazimuth, fork type mount with clamps in both axes. Exclusive body point support maintains extreme rigidity and incorporates slow motion altitude drive control. 17" metal table tripod. Mount may be removed for use with field tripod.

**F-336 ..... Net \$49.50**  
(Add \$1.75 for postage and handling)



## A 66-inch Slide-rule for your pocket, \$19.95



Slide Rule Open

The **GENIAC**® Calculator carries 66-inch spiral scales yet measures only ten inches fully extended and six inches when closed. **Four to five figure accuracy can be relied on.** It is indispensable to the scientist, research worker and student. Administrative staff and business men will find it of tremendous value for a host of estimating and checking calculations.

The **GENIAC**® Slide Rule solves multiplication, division, percentage calculation and gives 5 place logarithms.

You may use it for 30 days and if you are not satisfied repack and mail it back.

### What our users say:

"It does all you claim — four or five figure accuracy without eyestrain or magnifiers. Half an hour's study is ample for its use."

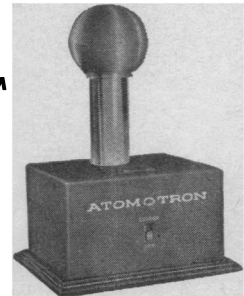
A. E. B.  
"I use the **GENIAC** Calculator for all my slide rule work and need the extra digit which normal slide rules cannot give. I had to get one of my customers a **GENIAC** Slide Rule last month after using mine in his office." E. & G. H. Textile Manufacturers.



Slide Rule Closed

## ATOMOTRON

- **MINIATURE ATOM SMASHER**
- **PRODUCES 75,000 VOLTS**
- **ABSOLUTELY SAFE**



In no sense of the word a toy or a gadget. The **ATOMOTRON** is a scientific instrument capable of producing 75,000 volts—makes sparks up to 2" long—yet is absolutely safe because the current is infinitesimal. The science teacher—science lover—or hobbyist can perform experiments to astound students—friends—family. Makes smoke disappear—defy gravity—turns propellers at a distance—transforms atomic energy into light—makes artificial lightning—smashes atoms—demonstrates ionic space ship drive—and many other experiments. Constructed of the finest materials. Will do exactly—for instruction purposes—what generators that cost 3 to 10 times more will do. The perfect device to teach the secrets of atomic physics and electricity. Will hold an audience spellbound as it performs trick after amazing trick. Includes an experiment kit and illustrated experiment manual. Manual explains the "how" and "why." You will invent many new experiments of your own. A fine research tool that will give years of beneficial service to the institution or individual who owns one. In kit form or assembled.

**Kit Form ..... \$14.95**  
**Assembled ..... \$19.95**

All Equipment Protected by 10-Day Return Guarantee & 90-Day Warranty

**OLIVER GARFIELD CO., Inc.** DEPT. SL-78-D, 108 East 16th St., New York 3, N. Y.

Please send me the following equipment:

900X "Microbe Hunter" F338 @ \$39.95 (plus \$1.00 for postage & handling)..... 50X "Stereoscope" F337 @ \$29.95..... 30X "Stereoscope" F335 @ \$19.95 (Add 83¢ each)..... METEOR 3 1/4 Reflector F336 @ \$49.50 (Plus \$1.75 for postage & handling)..... GENIAC Slide Rule @ \$19.95..... ATOMOTRON: Assembled @ \$19.95..... Kit Form @ \$14.95.....

NAME..... STREET..... CITY..... STATE.....

# AT LAST!

# NATIONALLY ADVERTISED Portable Transistor Radio

## Combines Powerful Transistor and Germanium Diode To Give **LOUD, CLEAR RECEPTION!** Fits in Pocket or Purse—**PALM SIZED—WEIGHS 3 OZS.**

### HOW THIS AMAZING TRANSISTOR POCKET RADIO WORKS—THE SECRET IS AIR!

At this point, you're probably wondering "how in the world can a portable radio possibly work . . . and how can it possibly cost so little?" The answer is simple: While working on a military problem, scientists developed a new type of self-powered radio signal detection device called a **GERMANIUM DIODE**, the same miracle invention now being used on radar and sonar equipment. This new invention actually generates its own power by drawing electric waves **RIGHT OUT OF THE AIR** just like a magnet, and converts those waves to audible sound signals! And it is this amazing electronic discovery that finally makes it possible for you as a civilian to own a practically lifetime pocket radio . . . scientists have actually condensed an entire radio power-plant into a 3 oz. unit the size of a pack of cigarettes and lasts indefinitely. Because, incredible as it may seem . . . each time you use it, it draws in more radio signals from the air . . . it then digests a new "electrical meal" and stays just as powerful as when it was brand new! But wait . . . that's not all.

### EXTRA TRANSISTOR AMPLIFIER PLUS BUILT-IN FERRITE LOOPSTICK ANTENNA . . . 3 EXTRA FEATURES!

To make sure that your **PARADE TRANSISTOR PORTABLE** doesn't merely "just play", but gives you the finest reception possible . . . electronic engineers have added 3 bonus features . . . features you'd ordinarily expect to find only on extremely expensive hi-fi sets! First, there's the super-distance Ferrite Loop antenna plus auxiliary external antennae and ground attachments that gives your **PARADE TRANSISTOR PORTABLE** out of town reception. Second—for extra clarity and volume, a transistor amplifier is used. Third, is the direct



circuit personal earphone speaker that enables you to listen to your favorite program in complete privacy. Even in bed, without disturbing others. This feature alone will give you more hours of use and pleasure than you ever enjoyed from a radio before. And remember . . . it's yours without a single penny's extra cost. In other words, when you receive your **PARADE TRANSISTOR RADIO**, you are not getting a toy or some flimsy gadget, but a true, precision engineered portable radio that is designed for years of trouble free service. It must last and last. You can now operate your **PARADE TRANSISTOR RADIO** 20 hours a day at a battery cost of less than 1c . . . or it costs you nothing! We guarantee your **PARADE TRANSISTOR RADIO** will play with brand new clarity and power years from now. Never before has there been a guarantee as strong as this!



**WEIGHS SO LITTLE  
YOU DON'T EVEN  
REALIZE YOU'RE  
CARRYING IT!**

Just think! Here at last is a transistor portable that is so light and takes up so little space that you can actually tuck it into the pocket of a Man's shirt like a pack of cigarettes! Or in a woman's purse, just like a compact.

Now at last, a fine precision-made radio that you can slip into your pocket and take to work . . . in factories . . . in ball parks . . . on fishing and camping trips . . . on vacations or picnics . . . a transistor pocket portable that you'll carry with you and can enjoy day in and day out all your favorite radio programs anytime. Now you can listen to the news, sports, music or weather by simply reaching into your pocket and tuning into the local station.

year. Therefore, all orders will be filled on a first come, first served basis. Once our limited supply is exhausted, we will be forced to withdraw this offer. Send the no-risk coupon today.

### THINK OF IT!

Not only the smallest transistor portable in the world, but the lowest **PRICED ONE TOO!** **THE PRICE . . . ONLY \$7.95.** One of the most incredible inventions of our century . . . One that will leave your friends and neighbors completely startled the moment they see it! For the first time ever, a **POCKET SIZED TRANSISTOR PORTABLE, FOR ONLY \$7.95.** The secret is a built-in lifetime power plant, the same type now being used by the Army and Navy in their radar and sonar equipment.

### LOUD CLEAR RECEPTION IN FRINGE AREAS

Here for the first time ever is a transistor pocket size radio—that pulls in programs loud, sharp and clear. A miracle of electronic science that gives you excellent audibility in fringe areas. Yes, a completely new kind of radio . . . You simply turn it on, it starts to play **INSTANTLY!** It's like carrying your favorite entertainment with you on picnics, boat rides, on the beach, at camp, ANYWHERE! It will pull in broadcasts from miles away clear and sharp. Yet, with all of this super-power reception, here for the first time ever is a pocket-size portable that is as small and compact as a pack of cigarettes and just as light.

### TRY IT FOR 10 DAYS!

Naturally, the best proof of just how sensational this **PARADE TRANSISTOR RADIO** really is, is in your own home. That's why we invite you to try it for 10 days . . . And if after hearing its tone and clarity if after using the personal earphone . . . if after taking it and using it wherever you go, you don't agree this is truly a once-in-a-lifetime opportunity to own this **PARADE TRANSISTOR PORTABLE** that's unlike any portable ever made and sold in this country before, then simply return it and it has not cost you a cent.

### RUSH FOR PORTABLES WILL SOON EXHAUST OUR SUPPLY!

This **FREE-TRIAL** offer May End Any Day . . . **SO ACT NOW!** Now the price of your **PARADE TRANSISTOR RADIO** on this special offer is an unbelievably low \$7.95 . . . probably the lowest price a portable has ever been sold for in this country. With the **PARADE TRANSISTOR PORTABLE** there are no tubes to buy. It not only pays for itself, but in the long run saves you money too. However, at this low price, the expected **RUSH** of orders will dwindle our supplies rapidly, and since production cannot possibly keep up with the demand, once the season gets fully under way . . . this offer may not be repeated this

### MAIL COUPON TODAY

#### GENERAL TRADING CO.

31 Second Ave. Dept. HP-2617  
New York 3, N. Y.

Send me my **PARADE TRANSISTOR RADIO** (complete with personal earphones and batteries and built-in super distance antenna) right away with this understanding: If I don't agree that this is by far the greatest value offered in a portable radio . . . then you will refund my money immediately.

#### CHECK OFFER DESIRED SAVE MORE

I enclose \$7.95 on money back guarantee. Postage Prepaid  I enclose \$14.95 (One for myself and one for a friend) and I save \$1.00.

Check  Cash  Money Order  
Name . . . . .  
Address . . . . .  
City . . . . . State . . . . .  
( ) Send C.O.D. I enclose \$1.00 deposit and will pay postman balance plus postal charges.

### FACTS!

- Measures only 3 1/4 x 2 1/4 x 1".
- Comes complete with Batteries.
- plays without batteries in an emergency.
- 2 Penlite Batteries (replacement cost 20c) will last for 400 hours of Musical Delight.
- Silver plated non-corrosive contact points.
- On and off switch.
- No electric plug-in.
- Printed circuit.
- Gold Mylar Grill.
- Picks up Conelrad.
- Fits in the palm of your hand.
- Large selection of stations.
- 90 day Manufacturer's warranty.
- Built-in transistor amplification circuit.
- **HI-IMPACT** unbreakable plastic case.
- Lowest cost transistor radio ever sold.
- **THIS IS NOT A CHEAP IMPORTED CRYSTAL SET.**
- Made in U. S. A.