

15¢

\$5.50 A YEAR



September 26, 1953

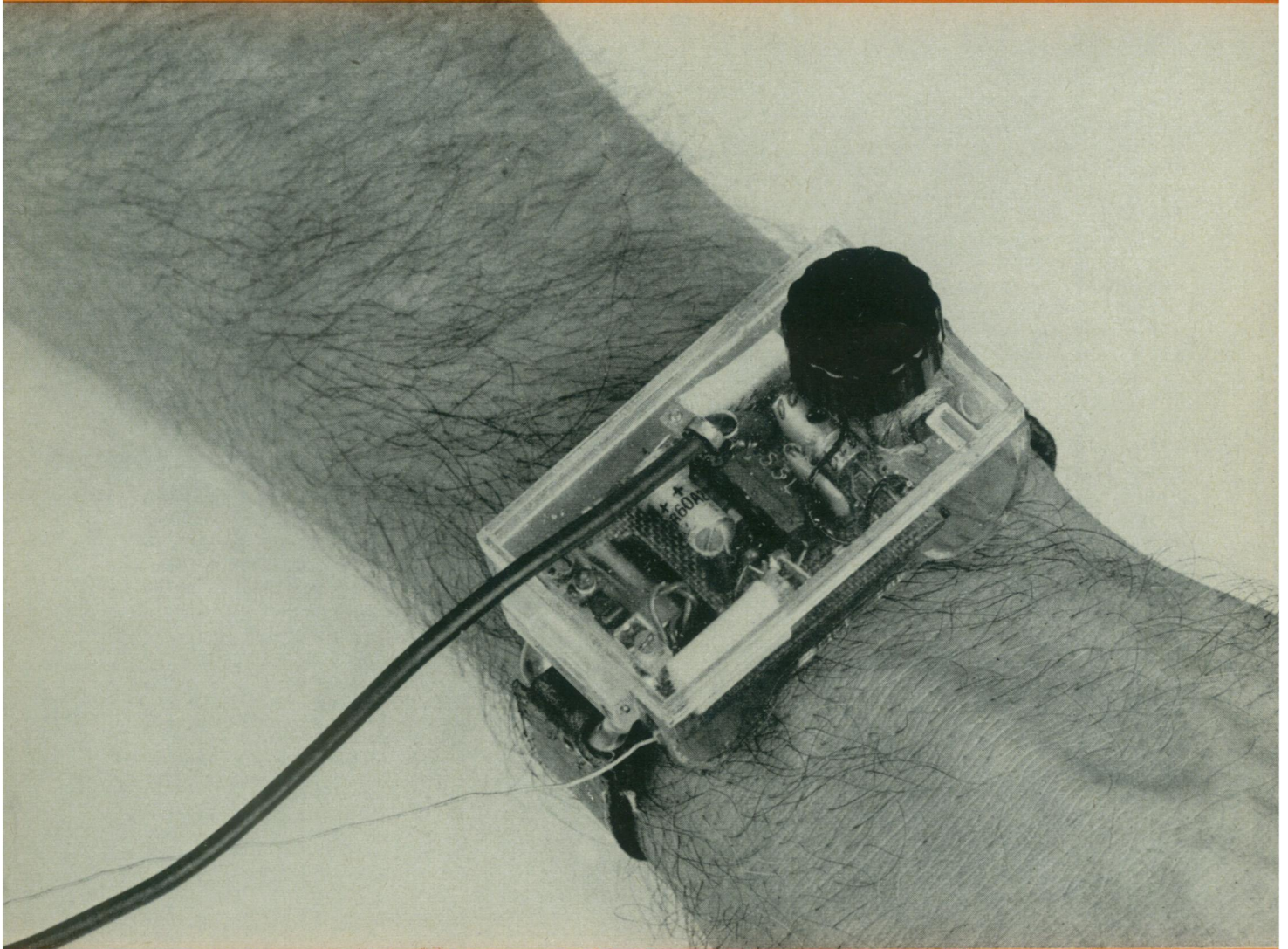
VOL. 64, NO. 13 PAGES 193-208

SCIENCE NEWS LETTER



®

THE WEEKLY SUMMARY OF CURRENT SCIENCE



Transistor Radio

See Page 196

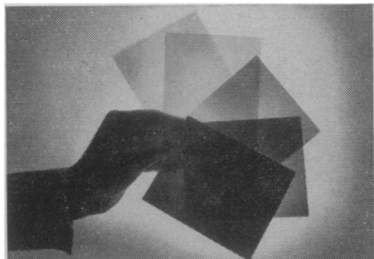
A SCIENCE SERVICE PUBLICATION

Kodak reports to laboratories on:

precisely pre-exposed film...why and how we produced a better phosphor for scintillation counters...a laboratory instrument you can have fun with

Flashed densities

Generally we sell our film unexposed, but even to that there is an exception. We refer to *Kodak Flashed*



Densities, used for cutting down light by a specific fraction. They're plain sheets of precisely exposed, precisely processed, and precisely calibrated film (not to be confused with *Kodak Wratten Neutral Density Filters*, in which diffuse density nearly equals specular density).

One application is in equipment for patrolling the smoke output of distant chimneys by comparison with adjacent sky seen through the film. To a wider audience than just smokestack inspectors, we announce that we can supply any flashed density from .05 (89% transmission) to 4.05 (0.009% transmission), with a density tolerance of $\pm 3\%$ or $\pm .02$ in density, whichever is greater. Maximum usable area is $7\frac{1}{2}'' \times 9\frac{1}{2}''$, including holes at the corners. Prices vary from \$2.75 for $4'' \times 5''$ size in the .05 to 1.05 density range, up to \$25.25 for $8'' \times 10''$ in the 3.06 to 4.05 density range.

If any questions about Kodak Flashed Densities occur to you, drop a note to Eastman Kodak Company, Industrial Photographic Sales Division, Rochester 4, N. Y.

To scintillate

We've been receiving letters from physicists lately asking for suggestions on new and better phosphors for scintillation counters, substances that emit a light flash when excited by an ionizing nuclear particle. Certainly no mass market there, but we thought we'd look around to see if

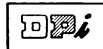
we couldn't find a really highly conjugated molecule for the boys, meaning alternating single and double bonds between the carbon atoms.

There's a fellow who teaches chemistry at a college an hour's drive away and drops in occasionally hunting for worthy projects to throw at his students. We asked him what he could do with *p-Quaterphenyl*, which consists of four benzene rings linked end to end and is therefore about as conjugated a compound as one could reasonably hope to prepare for now. We knew there was some of it present in the residue from the manufacture of biphenyl, but in that coal-like conglomerate it was bound to prove elusive. After talking it through, two routes to purified *p-Quaterphenyl* emerged. We selected one, and two young men then embarked



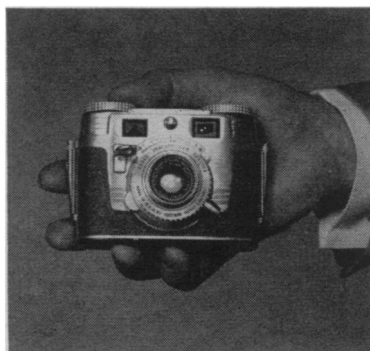
on an instructive experience that began with an Ullmann reaction of iodobiphenyl with copper powder and concluded as 600 grams in a stock bottle labeled "Eastman 6866." With scintillation so warm a topic as competition to the Geiger counter in physics laboratories, we expect the initial batch will not dwell long on our shelves, but we wouldn't want to bet one way or the other.

You can get a catalog of the more than 3500 Eastman Organic Chemicals by writing Distillation Products Industries, Eastman Organic Chemicals Department, Rochester 3, N. Y. (Division of Eastman Kodak Company).



The Signet

We *are* betting—heavily—on the *Kodak Signet 35 Camera* and the job it can do wherever picture taking is required in the world of scientific investigation. The day is some time past when a fine hand



camera like the *Signet* could be placed in the economic classification of luxury goods. From the geologist who captures an interesting stratified formation on film to the physical chemist recording a laboratory test setup soon to be torn down, a camera that makes pictures with a minimum of fuss and a maximum of quality is no luxury—it's a necessity.

But, since neither man nor camera can work all the time, we'd like to point out that the *Signet* also makes an all-remembering companion when it's time to enjoy yourself with family and friends. There's no extra charge, and what you spend on film you'll never miss.

Drop in at your Kodak dealer's for a look at the Signet. Takes 35mm film, color or black-and-white, of course. Kodak Ektar f/3.5 Lens, Lumenized, finest kind of lens we know how to make. Kodak Synchro 300 Shutter. Lens mount rides on 50 ball bearings as the focusing ring is turned under direction of the superimposed-image-type rangefinder. Exquisitely integrated mechanical design. Lists at \$92.50.

Prices include Federal Tax where applicable and are subject to change without notice.

This is one of a series of reports on the many products and services with which the Eastman Kodak Company and its divisions are... serving laboratories everywhere

Kodak
TRADE-MARK

At no cost whatever

*you can join the
largest scientific organization in the world.*

SCIENCE CLUBS OF AMERICA

This is the way you can join. Each member belongs to a club. Each club has a sponsor—a science teacher, parent, youth leader or professional scientist. The sponsor affiliates the club (see the coupon below) and receives all the free materials from SCA to keep the club informed and functioning.

Clubs can be small or large; size ranges from 3 to 700 members; average is about 25. Your club can be for boys and girls of any age, in or out of school.

Sponsors and members plan their programs together to suit the age and science interests of the group. SCA gives you many suggestions on what to do and how to do it.

TWO NATIONAL EVENTS are held each year especially for members of SCA. Your club can take part in both of them now or when your members are old enough.

The Annual National Science Fair is held each spring in a different city: 1950—Philadelphia; 1951—St. Louis; 1952—Washington; 1953—Oak Ridge, Tenn.; 1954—Purdue University, Lafayette, Ind. The boys and girls who show the best science exhibits in cooperating local science fairs get three-day all-expenses-paid trips to the National Science Fair and a chance to compete there for honors and awards. Only sophomores, juniors and seniors in high school are eligible to go to the NSF but in most local science fairs boys and girls of all ages can compete for local honors.

The Annual National Science Talent Search is held each year for seniors in high school who want to compete for \$11,000 in Westinghouse Science Scholarships for their college education. Annually 300 are honored. Of these, 40 boys and girls, chosen as winners, also receive a five-day all-expenses-paid trip to Washington, D. C. to attend the Science Talent Institute; the 13th will be held in 1954. Experience in science clubs and participation in science fairs is great practice for those who are planning to compete in the STS when they are old enough.

15,000 Affiliated Clubs

... one third of a million boys and girls affiliated with Science Clubs of America in the United States and abroad.

FREE to Club Sponsors

(\$1 to all others, and for extra copies)



TABLE OF CONTENTS

How to Organize Your Science Club
Activities for Your Club
Affiliated Groups in Various States
Where Science Clubs Are Located
Co-Projects for Your Club
Science Fairs, National and Local
National Science Talent Search
Free and Low Cost Materials for Science Clubs
Science Service Aids for Science Clubs

Adults, who want to sponsor a club, please sign below:

Boys and girls, who want to affiliate a club with SCA, get your sponsor to sign below:

If you do not have a club, and do not plan to form one, you may have a copy of the Handbook by sending your check or money order for \$1.00.

SCIENCE CLUBS OF AMERICA

1719 N St., N.W. • Washington 6, D. C.

I want to affiliate our science club with SCA. Please send me the free SPONSOR HANDBOOK.

Sponsor.....

Position.....

School.....

School Address.....

City..... Zone..... State.....

If you are not a sponsor, enclose \$1.00 for copy and check here ()