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# SCIENCE NEWS LETTER

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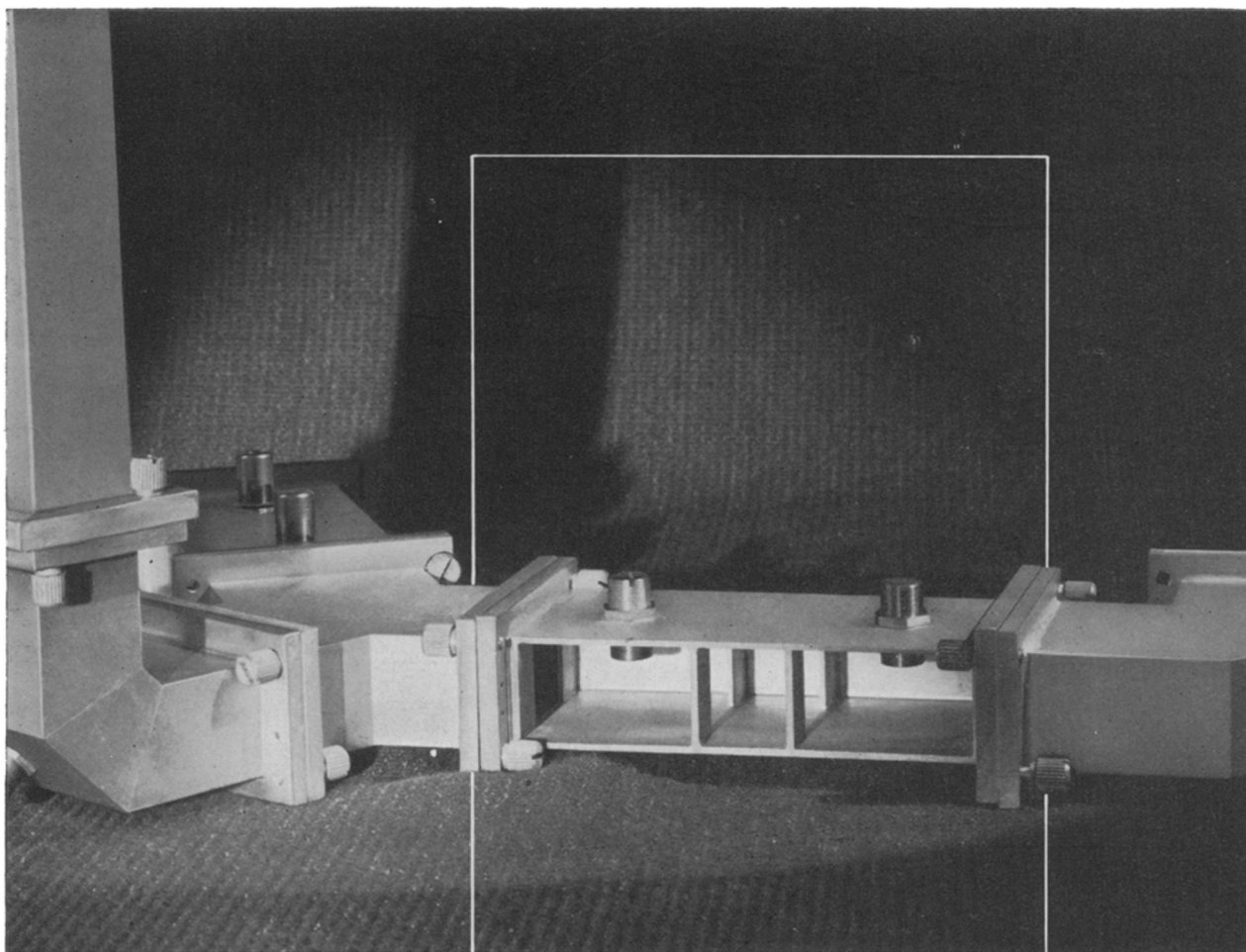
THE WEEKLY SUMMARY OF CURRENT SCIENCE • JUNE 14, 1947



## Doughnut Landing

See Page 373

A SCIENCE SERVICE PUBLICATION



*The two filters in the picture (one with side cut away) are used to separate two radio channels coming in on the same antenna but on different frequencies. At the end of the connecting waveguide, the channels are made to part company, each going to a different circuit through its assigned filter.*

## SEPARATION CENTER FOR RADIO WAVES

**T**hirty years ago, when all telephone service went by wire, Bell scientists developed means of sending dozens of conversations over the same line.

This they did by giving to each conversation a different *carrier frequency*; then to separate it from the others, they used a device which they had invented and named—the *electric wave filter*.

Today, in microwave telephone systems, the message-bearing waves pass to and from the antenna in pipes called waveguides. So scientists in Bell Laboratories

devised a different kind of filter—a filter in a waveguide. This filter is a system of electrically resonant cavities formed by walls and partitions. Waves that set up sympathetic vibrations in the cavities pass through; others are reflected.

In the Bell System, now, single circuits are carrying many conversations at the same time through precision wave-filtering.



**BELL TELEPHONE LABORATORIES**

EXPLORING AND INVENTING, DEVISING AND PERFECTING, FOR CONTINUED IMPROVEMENTS AND ECONOMIES IN TELEPHONE SERVICE

# WAR BARGAINS in LENSES and PRISMS

## ASSEMBLE YOUR OWN BINOCULARS!

Save More Than 1/2 Regular Cost  
Complete Optics! Complete Metal Parts!



### GOVT.'S 7 X 50 BINOCULARS

Here's an unusual opportunity to secure a fine set of Binoculars at a substantial saving of money. Offered here are complete sets of Optics and Metal Parts for the 7 x 50 Binoculars. These components are new and all ready for assembly. We supply full instructions. Limit—1 set of Metal Parts and 1 set of Optics to a customer.

**METAL PARTS**—Set includes all Metal Parts—completely finished—for assembly of 7 x 50 Binoculars. No machining required. Bodies have been factory hinged and covered. A sturdy Binocular Carrying Case is included with each set of Metal Parts.

Stock #841-Y—7 x 50 Metal Parts...\$36.20 Postpaid

**OPTICS**—Set includes all Lenses and Prisms you need for assembling 7 x 50 Binoculars. These Optics are in excellent condition—perfect or near perfect and have new low reflection coating.  
Stock #5102-Q—7 x 50 Optics.....\$25.00 Postpaid

### ARMY'S 6 X 30 BINOCULARS

No Carrying Case with any Sets shown below. (None yet available in Surplus Market.) M-13A1 sets are waterproof model. M-3 sets are not waterproof. Limit—1 Set to a Customer on all Sets shown below.

**COMPLETE OPTICS & METAL PARTS**—Model M-13A1, 6 x 30 Binoculars. Everything you need—ready for assembly. When finished will look like a regular factory job costing \$102 to \$120. The Optics are new, in perfect or near-perfect condition. Have new low reflection coating. Metal Parts are new and perfect, all completely finished. No machining required. Bodies factory hinged and covered. Complete assembly instructions included.

Stock #830-Q .....\$40.00 Postpaid,  
plus \$8.00 tax—Total—\$48.00

**COMPLETE OPTICS & METAL PARTS**—Model M-3, 6 x 30 Binoculars. The Optics in this set are new, perfect or near-perfect. Prisms have new low reflection coating. Factory mounted Eye Piece and Objective Assemblies not coated. Metal Parts are perfect, new, ready for assembly. When finished, this will look like a regular factory job, except a name has been filed off a cover plate. No machining required. Bodies factory hinged and covered.

Stock #831-Q .....\$35.00 Postpaid,  
plus \$7.00 tax—Total—\$42.00

**NOTICE:** If you buy both the Binocular Optics and the Binocular Metal Parts, your purchase becomes subject to 20% Federal Excise Tax. Be sure to add amount covering tax to your remittance or your order cannot be filled.

**METAL PARTS ONLY**—Model M-13A1, 6 x 30 Binoculars. No Optics. Same Metal Parts as described for Stock #830-Q.  
Stock #832-Q—6 x 30 Metal Parts...\$25.00 Postpaid

**METAL PARTS ONLY**—Model M-3, 6 x 30 Binoculars. No Optics. Some machining on these Metal Parts required. Bodies hinged and Prism Shelf holes placed, but you must tap them. Prism Shelves have been machined. Six lead spiral focusing threads have been cut. Some less difficult components you must thread and machine yourself, but all material you need is furnished except body covering material and Optics.

Stock #833-Q—6 x 30 Metal Parts...\$12.00 Postpaid  
**OPTICS FOR 6 X 30 BINOCULARS (No Metal Parts.)** Perfect and low reflection coated.

Stock #5130-Q .....\$15.00 Postpaid  
**SAME OPTICS AS ABOVE**—Coated—but slight seconds.  
Stock #5124-Q .....\$12.75 Postpaid

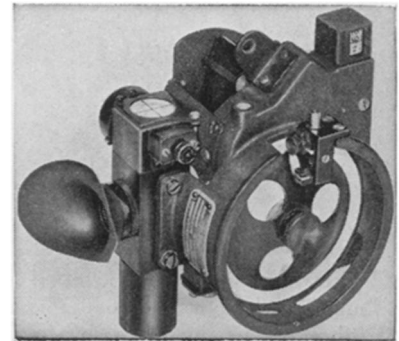
If you buy both the Binocular Optics and the Binocular Metal Parts, your purchase becomes subject to 20% Federal Excise Tax. Be sure to add amount covering tax to your remittance or your order cannot be filled.

Optics and Metal Parts are Available for Monoculars (1/2 a Binocular). For Complete Details, Write for Bulletin #14-Q.

TO KEEP POSTED on all our new Optical Items, send 10c and your name and address to get on our regular "Flash" mailing list.

## NEVER HAS THERE BEEN SUCH A SENSATIONAL BARGAIN AS THIS!

### BUBBLE SEXTANT - Type A-10



Used by the Army Air Forces, these Bubble Sextants cost the Govt. about \$200 each to make. At our price of \$12.50, you can quickly see that this is a wonderful bargain. Included with your Bubble Sextant shipment will be a sturdy wooden Carrying Case, equipped with catches and handle, 5 spare waxed paper discs, flashlight with rheostat for using Sextant at night. (Uses ordinary flashlight cells which are not furnished.) Auxiliary 2 Power Galilean Telescope for use on faint stars, Allen wrench, 2 spare marking points. Though wartime used, these Sextants have been, where necessary, completely repaired, collimated, and put in good working order. The light bulb has been tested. The Bubble is in working condition. All other working parts have been checked and are in good order. Because these Sextants have been wartime used, we make the following guarantee: if you are not satisfied that our Sextant is exactly as we represent it, return it within 10 days and your money will be refunded. Full directions on how to use the Bubble Sextant will accompany your shipment.

Stock #924-Q .....\$12.50 Postpaid

## AIR FORCES GUNSIGHT

With Polarizing Variable Density Attachment—Can be used as Slide Viewer, or take it apart and you can get polarizing variable Density Attachment. Mangin Concave Mirror, Reflector Plate, Metal Reticle, Window, Lamp Housing, Ring and Bead Sight. The Polarizing attachment alone is worth many times the price of entire unit. Consists of 2 Polarizing Filters mounted with small handle which rotates one around the other. May be used in Photography, Research, Experiments, as Light Dimmer, etc.

Stock #908-Q .....\$5.00 Postpaid

Same Unit Without Polarizing Attachment

Stock #916-Q .....\$2.50 Postpaid

**TANK PRISMS—PLAIN OR SILVERED**  
90-45-45 deg. 5 1/4" long, 2 1/2" wide, finely ground and polished

Stock No. Item Price

3004-Q—Silvered Prism (Perfect) .....\$2.00 Postpaid

3005-Q—Plain Prism (Perfect) .....\$2.00 Postpaid

(Illustrated Book on Prisms included FREE)

**35 MM KODACHROME PROJECTING LENS SET**

—Consists of 2 Achromatic Lenses for projecting, plus 2 Condensing Lenses and a piece of Heat Absorbing Glass with directions.

Stock #4029-Q .....\$3.10 Postpaid

**35 MM KODACHROME PROJECTING LENS SET**

—Consists of Achromatic Lens for projecting, plus a Condensing Lens and a piece of Heat Absorbing Glass with directions.

Stock #4025-Q .....\$1.95 Postpaid

**BATTERY COMMANDER'S PERISCOPE With Tripod—6 Power Instrument. Excellent condition.**

Length 27 1/2 inches—diam. 1 1/2 inches. Cost U. S. Govt. approximately \$175.00.

Stock #717-Q .....\$20.00 F. O. B. Audubon

### SPECIALS IN LENS SETS

Set #1-Q—"Our Advertising Special"—15 lenses for \$1.60 Postpaid, plus 10-page idea booklet. For copying, **ULTRA CLOSE-UP SHOTS**, macrophotography experimental optics magnifying and for making a two power 1/16 Telephoto Lens, "Dummy Camera," Kodachrome Viewer, **DETACHABLE REFLEX VIEWFINDER** for 35 mm. cameras, stereoscopic viewer, ground glass and enlarging focusing aids, **TELESCOPES**, low power Microscopes and for many other uses.

### NEW 50-PAGE IDEA BOOK "FUN WITH CHIPPED EDGE LENSES"

Contains wide variety of projects and fully covers the fascinating uses of all Lenses in set listed above . . . only \$1.00 Postpaid.

**POLARIZING VARIABLE DENSITY ATTACHMENT FOR 7 X 50 BINOCULARS**—An amazingly effective unit for controlling amount of light reaching your eyes. Cuts down glare in sky and overwater observations. Easily snapped on and off over the eye cups of American-made 7 x 50 Binoculars. Govt. cost, \$8.30 each.  
Stock #20,000-Q .....\$2.00 Postpaid.....

**SPECTROSCOPE SETS** . . . These Sets contain all Lenses and Prisms you need to make a Spectroscope, plus FREE 15-page Instruction Booklet.  
Stock #1500-Q—Hand Type.....\$3.45 Postpaid  
Stock #1501-Q—Laboratory Type.....\$6.50 Postpaid

WE HAVE LITERALLY MILLIONS OF WAR SURPLUS LENSES AND PRISMS FOR SALE AT BARGAIN PRICES. WRITE FOR CATALOG "Q"—SENT FREE!

**MOUNTED KELLNER TELESCOPE EYE PIECE**—Perfect, coated, in Ordnance sealed boxes. F.L. 1 1/4 inches. Outside dia. of steel mount 40 mm.  
Stock #6198-Q .....\$3.15 Postpaid

**OPTICAL BENCH KIT**—(Not a War Surplus Item) Everything you need, including four Lens Holders for checking Focal Lengths and setting up Lens Systems.  
Stock #53-Q .....\$8.50 Postpaid

**RAW OPTICAL GLASS** . . . An exceptional opportunity to secure a large variety of Optical Pieces both Crown and Flint glass (seconds) in varying stages of processing. Many prism blanks.

Stock #703-Q—2 lbs. (min. wt.).....\$5.00 Postpaid

Stock #702-Q—1 1/2 lbs. ....\$1.00 Postpaid

**BOMBER SIGHTING STATION**—A double end Periscope Type Instrument of highest precision. Brand new and in perfect condition. 6 ft. tall, shipping wt. 350 lbs. Orig. cost \$9,850. Consists of numerous Lenses, Prisms, Mirrors, Gears, Motors, Metal Parts and Electrical Gadgets.  
Stock #914-Q .....\$50.00 F.O.B. Oklahoma

**MOUNTED PROJECTING LENS SYSTEM—F.I. 91.44**

mm. (Just right for 35 mm. Projectors). Speed of F 1.9.

Outside dia. of mount at one end 60 mm. Length of mount 64 mm.

Stock #4033-Q .....\$3.00 Postpaid

**MOUNT FOR ABOVE PROJECTING LENS SYSTEM**

Stock #715-Q .....\$1.50 Postpaid

**SCHMIDT OPTICAL SYSTEM.** Black plastic body, size 3-15/16" by 5-1/4" F.L. 2.4" with amazing speed of F.O.9 Used in Navy's Infra-Red Sniperscope and Signalling Units. Govt. cost \$134. Limit—1 to a customer.

Stock #720-Q .....\$6.00 Postpaid

ORDER BY SET OR STOCK NO.

SATISFACTION GUARANTEED

**EDMUND SALVAGE COMPANY, P. O. Audubon, New Jersey**