

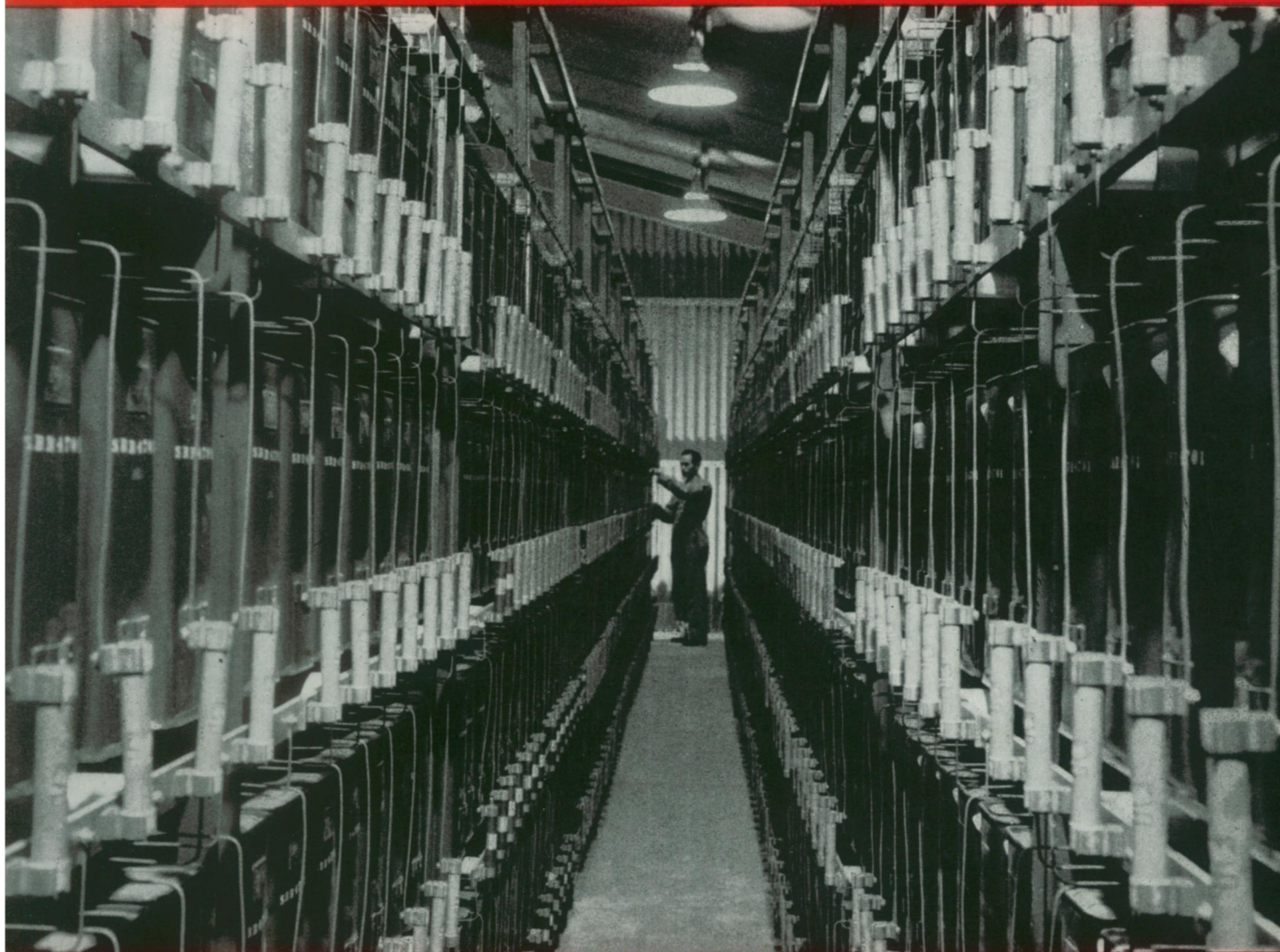
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February 12, 1949

SCIENCE NEWS LETTER

®

THE WEEKLY SUMMARY OF CURRENT SCIENCE



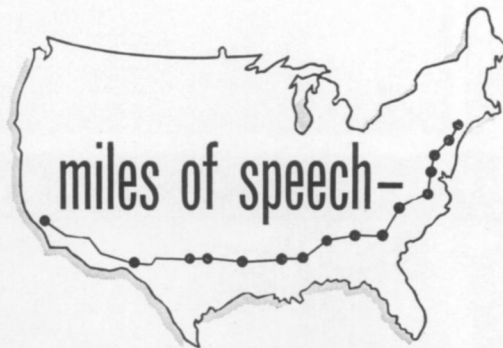
Power for Atom-Smasher

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A SCIENCE SERVICE PUBLICATION

\$5.50 A YEAR

VOL. 55 NO. 7



only inches of sound!

When you talk by telephone, far or near, the actual sound travels much less than when you talk across the room!

That's because the telephone system carries not sound itself but an electrical facsimile of sound. When you speak into a telephone transmitter your voice is converted into electrical vibrations which are not changed back into sound until they reach the receiver diaphragm.

Conversion of sound into its electrical equivalent, through the invention of the telephone, opened the way to the measurement of sound by accurate electrical methods. In developing means to make the telephone talk farther and sound clearer, the scientists of Bell Telephone Laboratories had to develop the tools for sound-wave analysis and measurement.

The condenser microphone, the wave filter, the amplifier—each the product of telephone research—have helped to reveal the structure of sound as never before. Each has helped to build the world's finest telephone system.

BELL TELEPHONE LABORATORIES



Exploring and inventing, devising and perfecting, for continued improvements and economies in telephone service.



Mercury, "messenger of the gods," was slow compared with Ultrafax—which moves at the speed of light.

This messenger delivers a million words a minute

Recently, at the Library of Congress, a distinguished audience saw documents flashed across Washington by a new means of communication . . . and reproduced *in facsimile*.

This was Ultrafax in action—a super-fast television communications system developed at RCA Laboratories. Reproductions of *any* mail—personal, business, or military . . . including police descriptions, fingerprints, bank drafts, government records—can travel at 186,000 miles a second!

Material to be sent is placed before an RCA "flying spot" scanner, and transmitted by ultra-high frequency radio signals. Miles away the pictures appear on a picture tube and are photographed. Negatives are ready for printing or projection in 40 seconds.

Eventually, when Ultrafax comes into commercial use, a complete Sunday paper—every word, every picture—may cross America in 60 seconds . . . a letter in the twinkling of an eye.

Science at work . . .

Ultrafax is but *one* of scores of major achievements pioneered at RCA Laboratories. This leadership in science and engineering adds *value beyond price* to any product or service of RCA and RCA Victor.

Examples of the newest developments in radio, television, and electronics may be seen in action at RCA Exhibition Hall, 36 West 49th Street, N. Y. Admission is free. Radio Corporation of America, Radio City, N. Y. 20.



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