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SCIENCE NEWS LETTER

®

THE WEEKLY SUMMARY OF CURRENT SCIENCE



President Greets Winners

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THERE ARE 10,000 pegs in this machine, representing 10,000 subscribers in a crossbar telephone exchange—the latest switching system which handles dial calls with split-second swiftness.

The pegs represent many types of telephone users—two-minute talkers and ten-minute talkers . . . people who dial accurately . . . those who make a false start or two. They are starting a journey through a unique machine which analyzes the performance of dial equipment in a typical central office.

But while an actual crossbar exchange connects your call in a matter of seconds, this counterpart moves far more slowly. It gives the Bell Laboratories engineers who built it time to observe what happens to

each call—where bottlenecks develop, which parts are overworked or underworked, which of the circuits are most used.

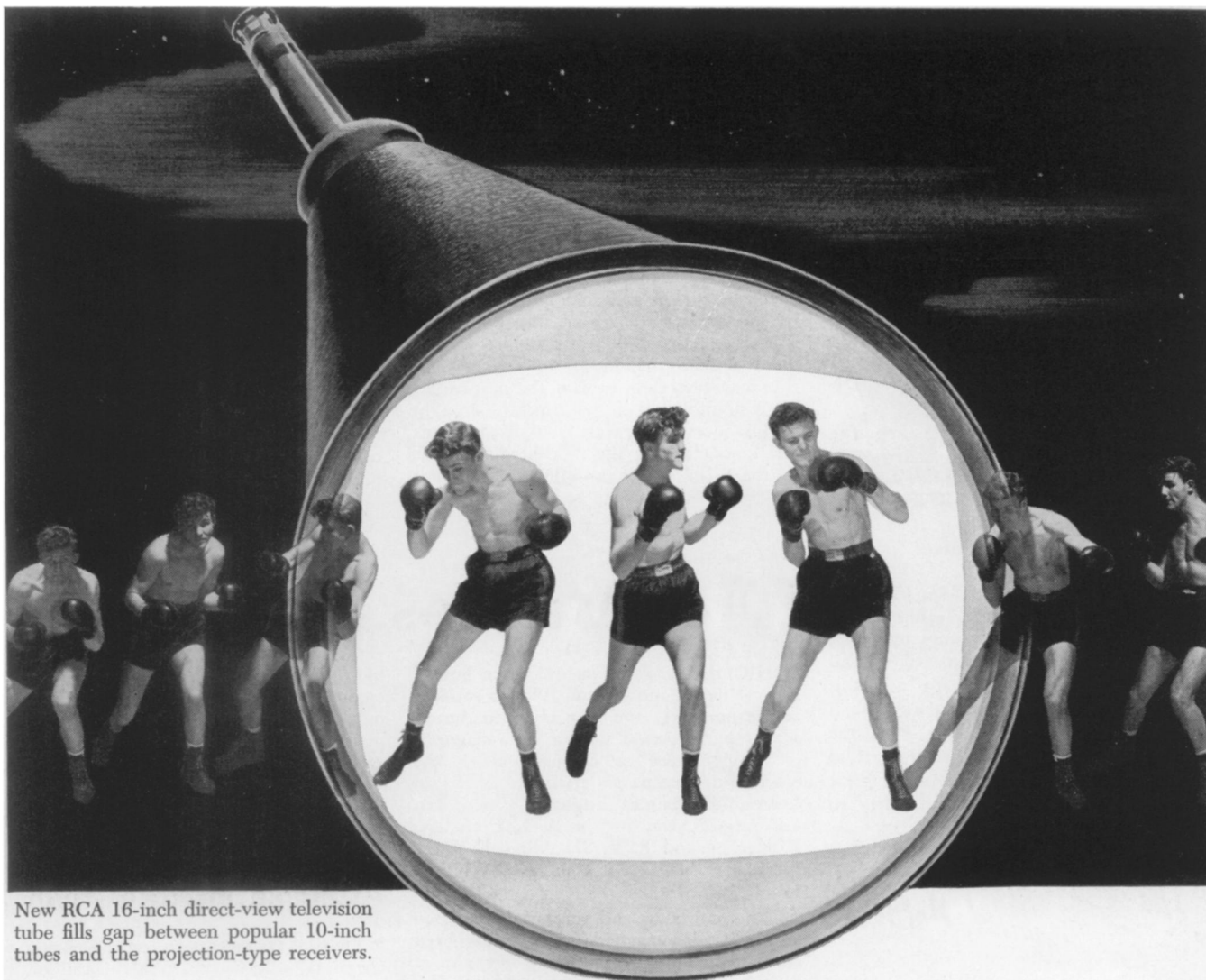
In a manual exchange, the number of operators may be changed to meet different traffic conditions. In crossbar, all switching is done by complex electro-mechanical devices, permanently built in. This machine shows how many devices of each kind there must be in a new exchange to give you the best of service with a minimum of expensive equipment.

This traffic-study machine is one of the many ingenious research tools devised by the Laboratories as part of its continuing job—finding new ways to give you better and better telephone service.



BELL TELEPHONE LABORATORIES

Exploring and Inventing, Devising and Perfecting, for Continued Improvements and Economies in Telephone Service



New RCA 16-inch direct-view television tube fills gap between popular 10-inch tubes and the projection-type receivers.

"Inside story" of a bigger, brighter
picture on your television screen

The screen on which you are accustomed to seeing television is the face of an electron tube—on which electrons "paint" pictures in motion.

And the size of the picture, unless projected, is determined by the size of the tube.

Working to give you *bigger, brighter* pictures, RCA engineers and scientists developed a new way to make large, direct-view television tubes. They found a

method of "welding" large areas of glass and metal... while keeping a vacuum-tight seal!

Using this development—ideally suited to mass production—RCA can now build television tubes of light, tough metal... using polished glass for the face, or "screen."

An achievement of research

Development of this new television tube is a continuation of basic television research which

began at RCA Laboratories. Such leadership in science and engineering adds *value beyond price* to any product or service of RCA and RCA Victor.

. . .

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



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