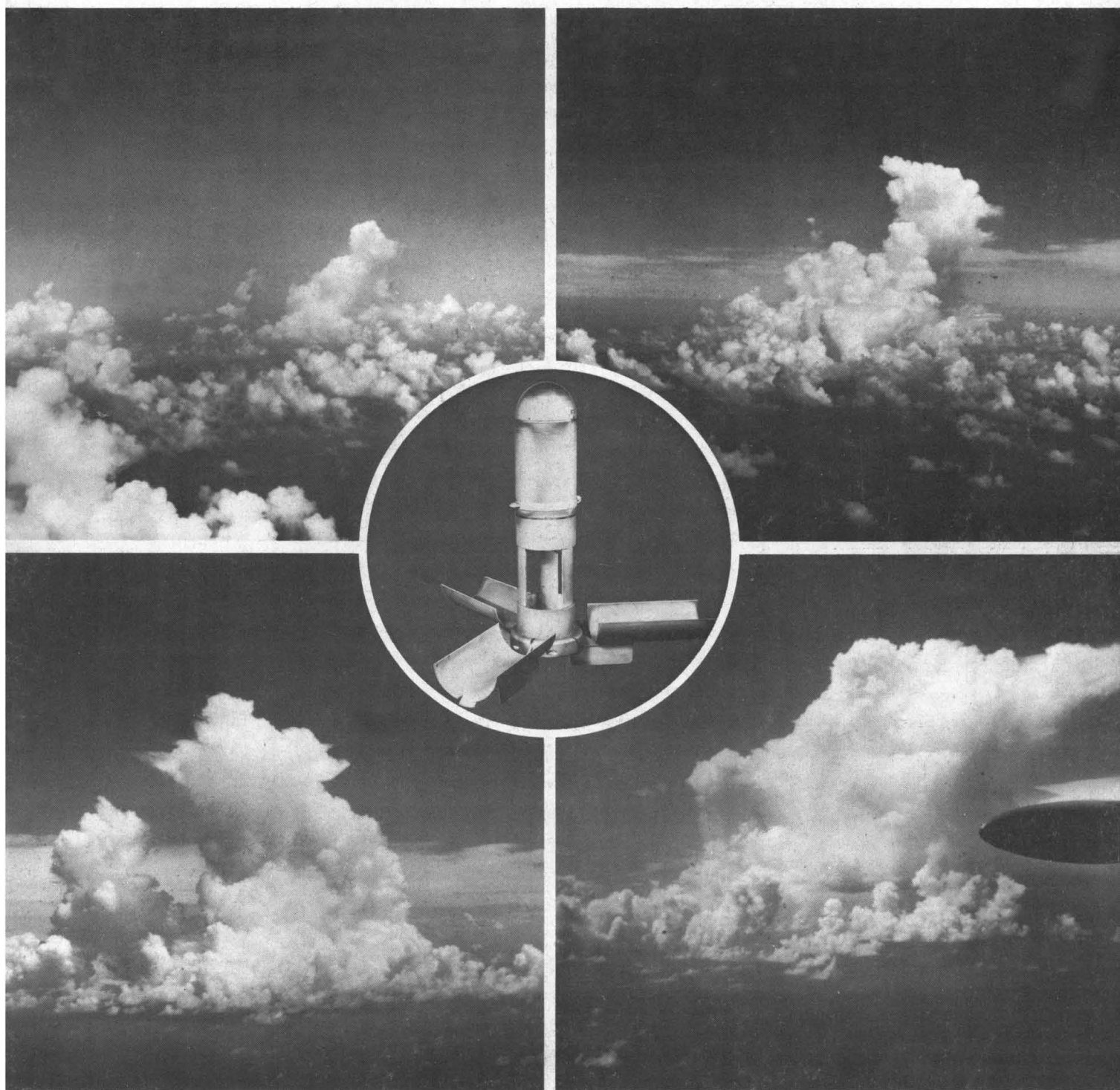


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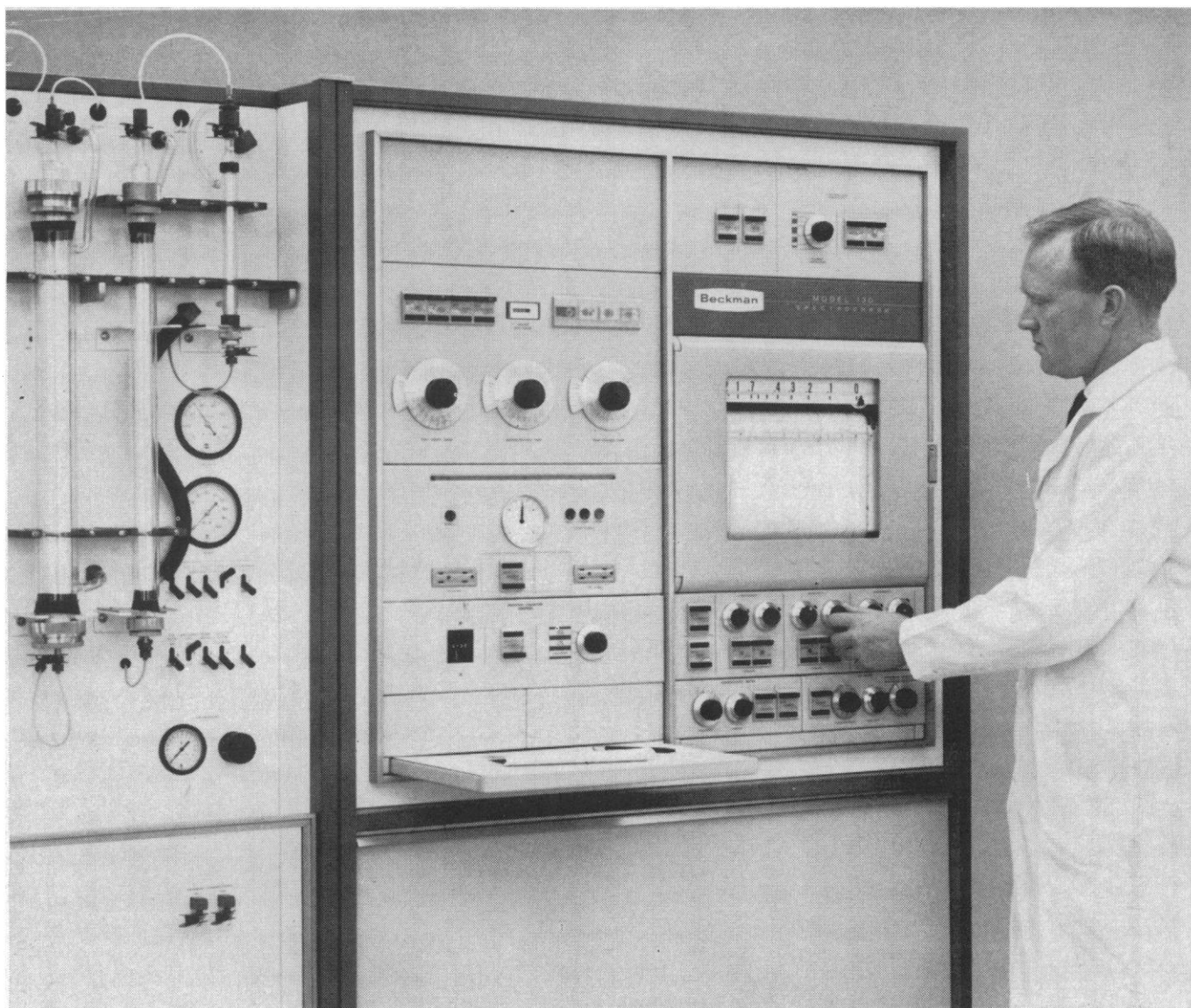
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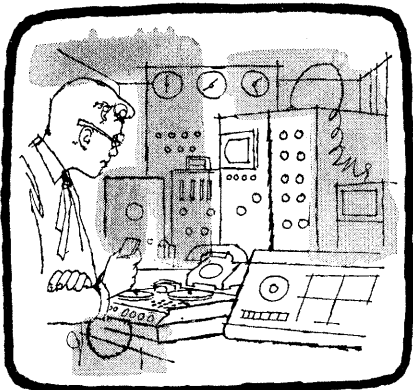
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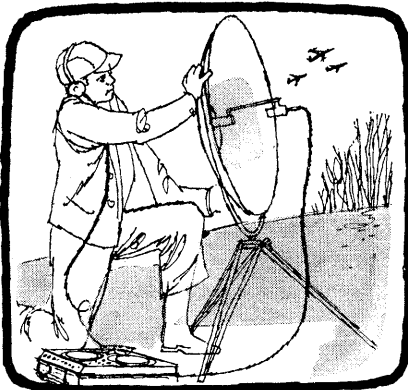
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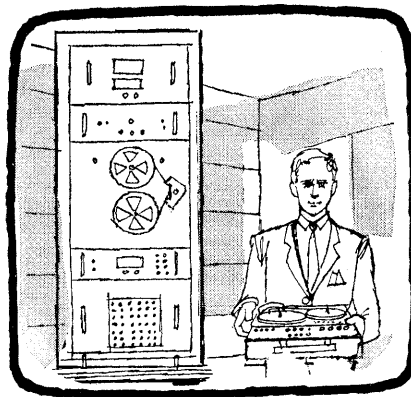
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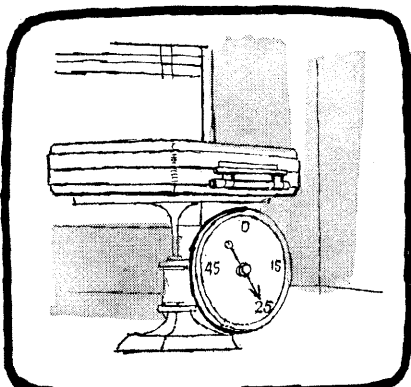
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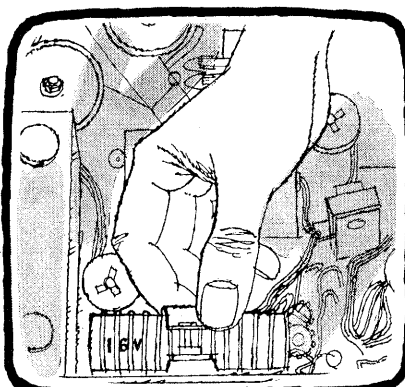
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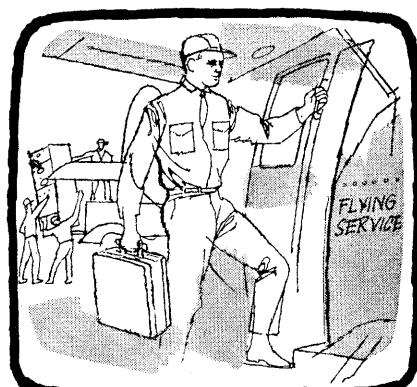
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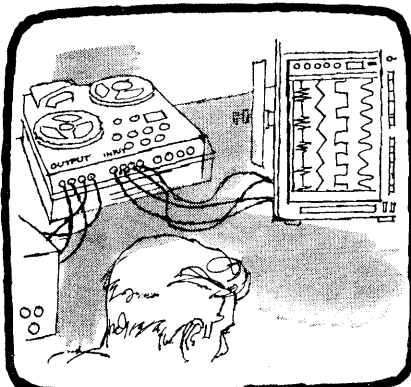
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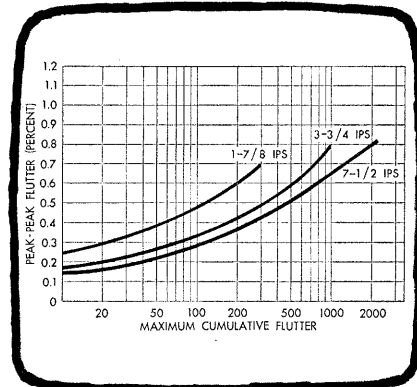
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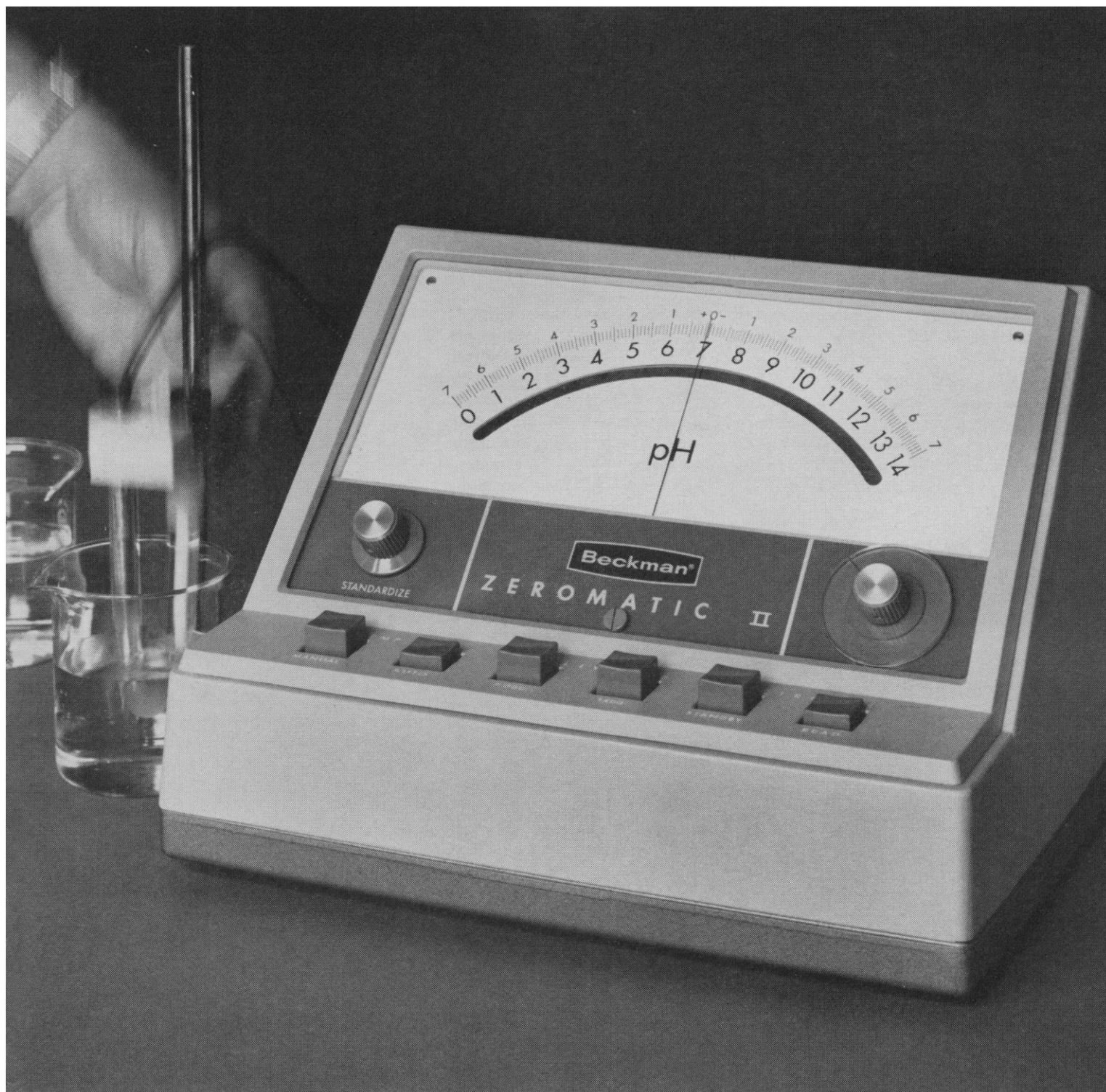
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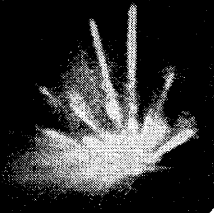
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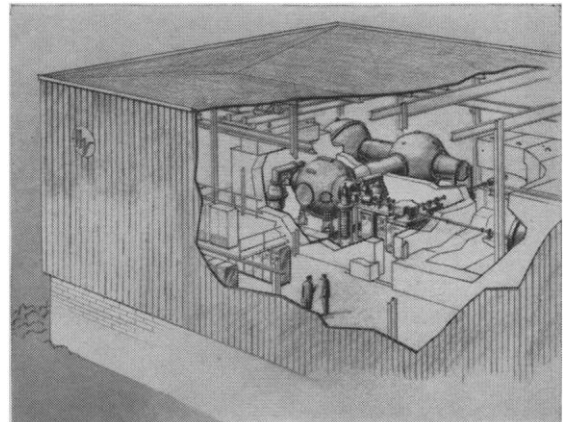
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how HVEC research programs broaden the versatility of particle accelerators



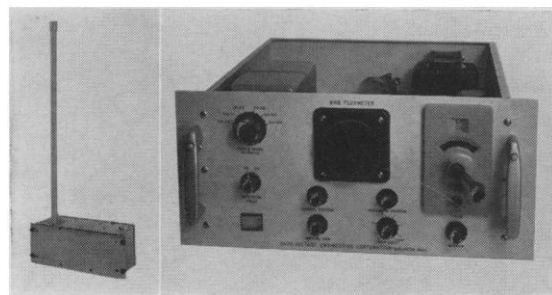
A 3-MV ICT-powered Tandem Accelerator and another higher energy machine to allow complete testing of 3-stage tandem operation will be housed in the new 20,000 square-foot laboratory which will be staffed by 20 research personnel.

New High-Transmission System

Analyzed proton currents in the order of 10 to 15 μ A can be achieved over the entire energy range of Model EN and FN Tandem Accelerators equipped with inclined field tubes by the

use of a newly developed high-transmission system. The system is now available from High Voltage and can be installed in the field or delivered with new machines.

New Single-Probe Fluxmeter

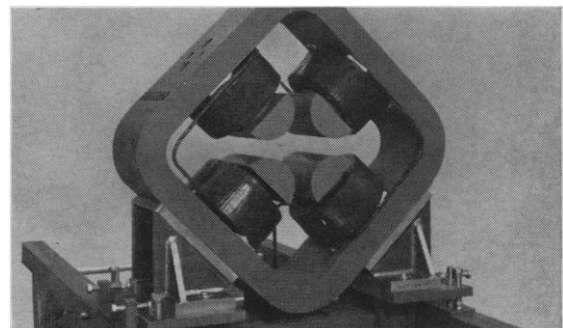


This new NMR fluxmeter allows convenient and accurate determination of magnetic field strengths over a range of 900 gauss to 19 kilogauss. A single probe covers the entire range; there is no need for probe changing and/or shunting. Accuracy is one part in 10^5 and signal-to-noise ratio is 20 db, making the unit easily tunable. At magnetic fields exceeding 10 kilogauss, the proton probe is at least one hundred times more sensitive than deuterium or lithium.

New Magnetic Auxiliaries

A new multiport switching magnet, Model 70-88, is available for use with HVEC Tandem Accelerators. The new switching system will deflect a 77 MeV proton through an angle of 70°.

The new HVEC Quadrupole Lens Model QMD 2.5-360 has been designed for use with the Model 70-88 Switching Magnet beam tube extension. The lens aperture is 2.5 in. and the field at the pole tip center is 2.25 kg/in. Shown at right: new 5-in. aperture Quadrupole Lens Model QMS-5-1100.



HVEC accelerator auxiliaries are all designed to enhance the versatility and flexibility of HVEC accelerator systems.

For detailed information, please write to Technical Sales, High Voltage Engineering Corporation, Burlington, Massachusetts.

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AAAS Space Poll

Polling a cross section of members of AAAS with respect to the space program (*Science*, 24 July) was an interesting experience. At a time when many people are on vacation, the response was more than 56 percent, virtually by return mail. Answers to a question concerning the highest academic degree of the respondent reminded us of the excellent educational background of AAAS members. Nearly half are Ph.D.'s, and another tenth are M.D.'s. *Science* reaches a substantial fraction of the leaders of academic and industrial research—for example, half of the members of the Chemistry and Physics section of the National Academy of Sciences. Thus the poll sampled a cross section of a substantial fraction of the best minds of this nation. The resultant data are important, but what do they mean?

The group, while having reservations, endorses the objective of a manned lunar landing. Only 7 percent thought there should never be a manned lunar landing. The reservations concern the priority of the program, the costs involved, and the benefits to be derived. Only 31 percent thought a high priority should be given to landing a man on the moon by 1970. Indeed, only one-fifth considered a landing by 1970 a reasonable objective. An overwhelming majority felt the present level of support of space activities is too high. Currently about 40 percent of federal research and development funds are devoted to space. A clear majority (61 percent) believed that space should receive one-fifth or less of the R&D budget.

The respondents indicated reservations as to the benefits of exploring the moon. When asked to choose "the most important justification for manned exploration of the moon," a majority chose "scientific." Yet when asked to rank fields in order of their "potentiality for producing important new knowledge," respondents gave lunar exploration a low rating.

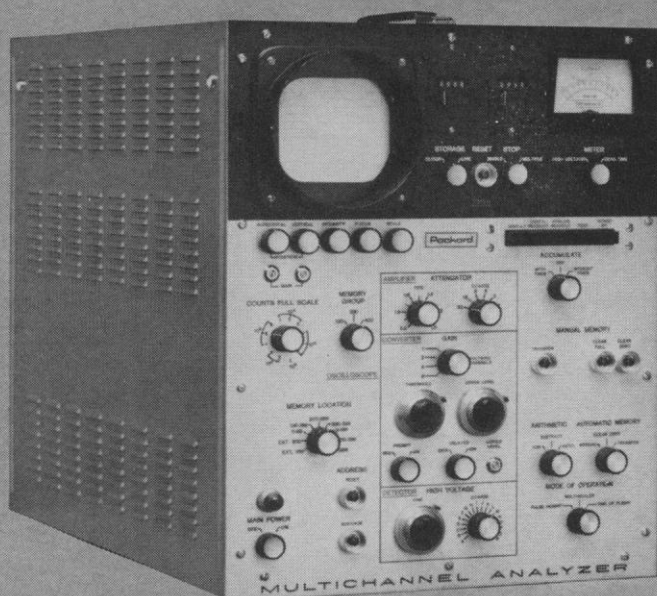
The question concerning potentialities of various fields made some respondents unhappy and evoked the most comment. A few felt that the question was unanswerable. Obviously, responses must represent guesses. But these are the kinds of guesses that scientists must continually make. There was a considerable write-in vote for the behavioral sciences. If the questionnaire had included this item as one of the formal choices, it probably would have ranked high.

Some respondents made comments which they signed. Among these was one from a former president of the American Chemical Society. He may have enunciated the view of many when he said:

If we were struggling to maintain a high living standard we could not afford the luxury of space travel, but we have an affluent society and can spare the effort. It is an innocent, harmless project which appeals to the public spirit of adventure. . . . All the money is spent within the country and spurs the economy. It is vastly better to stimulate the economy and arouse the enthusiasm of the public in this way than to have it done by war.

At present scientists go along with the space program but without enthusiasm. There is little doubt that manned space exploration will be carried out, but the program will be subject to continuing re-examination and controversy.—PHILIP H. ABELSON

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