

SEISMOLOGY

## Computer-Seismograph Makes Quake Library

► THE FIRST TAPE library of earthquakes, nuclear blasts, and other disturbances that cause vibrations of the earth, is being compiled by a cross between a digital computer and a seismograph.

"The new system makes available many times more data than are possible with conventional instruments and will immensely accelerate the collection and analysis of earthquake information," said Dr. Frank Press, director of California Institute of Technology's Seismological Laboratory. The system was designed and built by Wayne Miller.

The system consists of three units, the first of which is a standard seismometer, which converts the ground motions into electrical impulses.

The second stage is the digitizer, which records the impulses and translates them into the language of an electrical computer.

The third stage copies the material onto half-inch magnetic tape, which can be fed directly into the computer.

The digital computer technique is very flexible, said Dr. Press, in that "the system is capable of recording earth motions over the entire seismic spectrum. Thus the digital seismograph is equivalent to a combination of many conventional seismographs and provides greater precision and dynamic range."

The "editor" makes it possible for the operator to select the interesting "events" (earthquakes and nuclear blasts) from the record of the continual background motions of the earth. The "editor" searches through the vast amount of data to the desired location on the original tape, displaying on a chart recorder a conventional graph of earthquake motions so that the operator can see it. About one day is required to edit the many events collected in a week's operation.

Seismologists from several nations, including India and Tasmania, have expressed keen interest in obtaining material from the earthquake library.

• Science News Letter, 82:275 October 27, 1962

## Do You Know?

A total of 4.8 billion pounds of chemicals will be used—directly or indirectly—in the 135 million tires produced in 1962.

Russia graduates more than 120,000 engineering students annually, as compared to the 37,000 a year that the U.S. expects to graduate for the next 10 years.

Recent surveys in the U.S. indicate that about 97 million persons, or more than half the population, have decayed teeth.

The U.S. drug industry spends more than \$100 million annually for research.

In 1915, as many as one in ten infants was unable to survive the first year of life as compared to one in 40 in 1961.

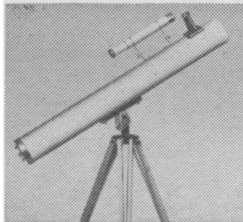
• Science News Letter, 82:275 October 27, 1962

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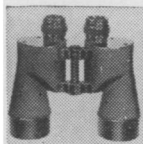
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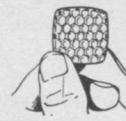
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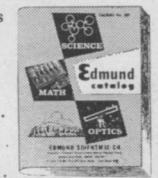


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