

The satellite has emitted signals on 227 occasions which were picked up by monitoring stations in the Hawaiian Islands and Manchester, at a distance of some ten million kilometres. The signals take 36 seconds to reach the earth.

The quality of the radio link with *Pioneer V* gives the technicians grounds for hoping to be able to communicate with the satellite at a distance of as far as 150 million km.

On the other hand, the micrometeorite detectors are working less satisfactorily.

The earth's magnetic field stretches more than 85 000 km into space, whereas it had been thought that it stretched no further than 30 000 to 40 000 km.

In addition, an electric current encircling the earth from west to east has been detected. It exists in an area about 40 000 km wide, and its centre is about 55 000 km from the earth. The intensity of this current seems to be about five million amperes.

There is a permanent weak magnetic field in interplanetary space, except during periods of solar magnetic storms.

(Source : *Press release*)

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**Scientific Conference on radioisotopes.**—An important conference on the use of radioisotopes in the physical sciences and industry, arranged by the International Atomic Energy Agency (IAEA), will be held in Copenhagen from 6 to 17 September this year.

More than five hundred scientists from the Agency's seventy Member States are expected to attend, to discuss results of recent research work. Information revealed at the conference will be made available to all countries.

The last major scientific conference on radioisotopes was organized by Unesco in Paris in September, 1957. Unesco will cooperate with the IAEA in preparing for the Copenhagen conference.

(Source : *Unesco Features*)

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**Scientific policy.**—As the result of recommendations by the National Commission for the study of problems raised in Belgium and the Overseas Territories by the progress in science, and the economic and social repercussions thereof, the Belgian Government set up the following organs responsible for scientific policy, by Royal Decree dated 16 September, 1959 :

Ministerial Committee on Scientific Policy ;  
Inter-Ministerial Commission on Scientific Policy ;  
National Council on Scientific Policy.

The Council, which is composed of leading figures in the scientific, economic and social fields, will advise the Government on matters of scientific policy, determine the broad lines of such policy and follow its application.

The following two permanent committees were set up at the same time as the Council :

a committee of scientific experts, to study, on behalf of the Council, the conditions of progress and development in the various branches of research, both fundamental and applied ;

a university-industry liaison committee, to study, on behalf of the Council, the conditions for harmonious cooperation between scientific research and

higher education on the one hand, and economic activity on the other.

(Source : *Communique*)

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**New company organized specializing in underwater cable systems.**—A new company, the United States Underseas Cable Corporation, to provide for the design and construction of long distance underwater cable systems, has been organized by Page Communications Engineers and its parent company, the Northrop Corporation Phelps Dodge Corporation and *Felten und Guillaume* of West Germany.

The new company will have available to it the West German firm's large manufacturing capabilities for underseas cable, the new and highly advanced facilities for the manufacture of underseas repeaters, together with the services of its three ocean-going vessels for surveying and cable laying, including the 11 000-ton *Neptun* which, after conversion, will be the largest and most modern cable ship in the world.

(Source : *Telecommunications Reports*)

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**New electron tube.**—Commercial production of the *nuvistor*, a new thimble-size electron tube widely acclaimed as a revolutionary breakthrough in tube technology, was announced in February, 1960, by the Radio Corporation of America.

The tube can be used in many diverse applications ranging from data processing systems to medical diagnostic equipment.

Because the *nuvistor* has the ability to operate at any altitude, it will have important applications in miniaturized airborne apparatus and space vehicles.

"Nuvistorization" provides the long-awaited answer to better performance of electronic systems in such fields as radar, controls, communications, instrumentation and medicine.

(Source : *RCA Electronics for Living*)

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**Standard frequency broadcast on 20 kc/s.** — Effective 5 April, 1960, the National Bureau of Standards Boulder Laboratories began operation of a cw standard frequency broadcast on 20 kc/s. The transmitter is located at Sunset, Colorado, near Boulder, 40° 2' N ; 105° 27' W. The call sign WWVL, is given in telegraph code each hour and each 20 minutes thereafter. The frequency is controlled by a quartz crystal oscillator which is —150 parts in 10<sup>10</sup> below the United States Frequency Standard and is continuously referred to it. The oscillator controlling the broadcast is stable to better than 1 part in 10<sup>10</sup> per day. Corrections to the broadcasts are given upon request.

The power to the antenna is about 10 kilowatts ; however, present plans are to increase this to 40 kilowatts. The schedule of broadcasts is continuous.

Reports on uses of the 20 kc/s broadcasts and on its frequency or phase stability will be appreciated. They will be of value to NBS in the developmental work preliminary to the establishment of a high-power frequency and time signal broadcast on 20 kc/s. Reports should be addressed to National Bureau of Standards Boulder Laboratories, Division 84.20, Boulder, Colorado.

(Source : *Communication of the National Bureau of Standards*)

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