

Direct TV Broadcasts Forecast

► TELEVISION PROGRAMS broadcast directly to homes from satellites could be possible by 1970.

This prediction was made by two Radio Corporation of America engineers to the meeting of the American Institute of Aeronautics and Astronautics. They said the proposed system would work with existing home TV sets supplemented with a \$75 antenna. However, direct home broadcasts may not be a desirable use for the limited number of radio frequencies available for communications satellites, James D. O'Connell, the President's Special Assistant for Telecommunications, said at the same meeting in Washington, D.C.

He said that since such a system is possible, its advantages and disadvantages should be investigated now. The study is part of a long-range program to find out how to make the best use of the radio spectrum, which is not an "infinite resource but a measured resource."

The program is a joint venture of the Executive Office of the President and the Federal Communications Commission.

Mr. O'Connell charged that the United States in the past has failed to make long-range plans for using the radio band. The joint program, he said, is to ensure that this does not happen between now and 1975, with particular emphasis on satellite communications.

The two RCA engineers, R. B. Marsten and S. Gubin, presented a design of a satellite light enough to be launched by existing rocket boosters. Called Vista, the satellite would broadcast on a single UHF channel in color.

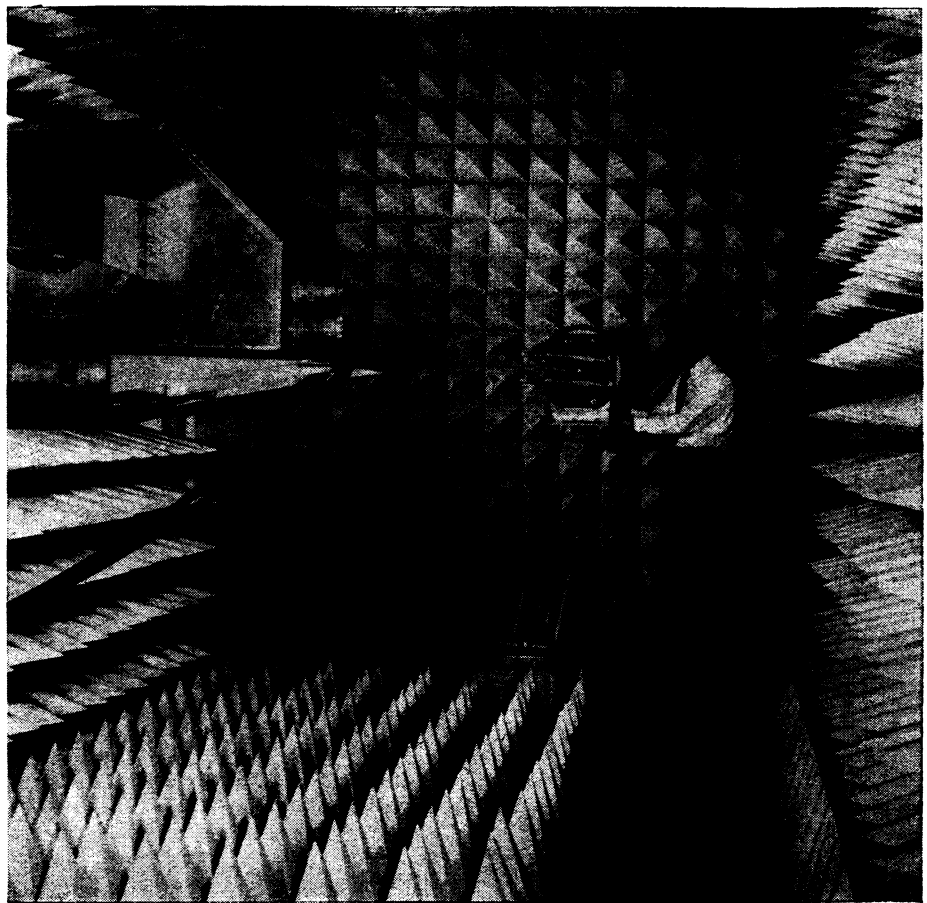
Just as the development of the automobile and electric power grids resulted in drastic changes in the way people live, so will "information grids" change people's lives.

This prediction was made by Myron Tribus, dean of engineering at Dartmouth College.

The development of interconnecting power systems had a major effect on people's lives by replacing brute, human force with cheap electricity.

Rapid and accelerating developments in computers and communications techniques are bringing an "information grid" to a position as handy as the light switch and ignition key.

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Sylvania

ROOM OF PYRAMIDS—Television programs beamed to and from orbiting spacecraft are being tested by engineers at Sylvania Electric Products Inc., in Waltham, Mass. A taped telecast was transmitted to and from a simulated satellite by means of a 40-foot diameter dish antenna. The heart of the system, called radio frequency feed, is being tested above in an ultra-quiet chamber where pyramid shaped foam rubber absorbers provide a virtually echoless and interference-free area.

SPACE

Satellite Launch Set

► U.S. PLANS for commercial communications satellites will be firmly outlined by Aug. 1. The domestic system will be one that can later be "plugged into" a global network for transmitting television, radio and telephone messages anywhere in the world.

The "magic date" for having U.S. satellites in orbit is 1969, James McCormack, chairman of the board of the Communications Satellite Corporation, said. Comsat operates Early Bird, the world's first communications satellite that is now in a synchronous orbit 22,300 miles above the mid-Atlantic, linking North America and Europe.

The proposed communications satellites, either two or four, will also be placed in synchronous orbit, Mr. McCormack told the American Institute of Aeronautics and Astronautics in Washington, D. C. The global satellites will be larger and more powerful than Early Bird. They will weigh about 250 pounds, compared with Early

Bird's 85 pounds. Proposed equatorial orbits are over the mid-Pacific and the mid-Atlantic.

It will take about three years to build the ground stations that will receive radio transmissions from the orbiting satellites, Mr. McCormack reported. He predicted that direct broadcasts to anyone in the world with an antenna on his roof were possible, "but still somewhere down the road."

Some 90 to 100 ground stations will be built. Of these, from three to 10 will be primary ones, costing about four million dollars each. The other 80 or so will be used mainly as receivers, and should cost no more than \$100,000. However, they can be used to send television or radio signals if necessary to cover such events as Olympic Games.

The orbiting satellites would provide about 20 television channels, as well as channels for radio and telephone communications.

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