

EARTH SATELLITES: A PEEK OVER THE HORIZON

Of all the many electronic devices introduced within the past few decades, none have ever impacted upon the teaching profession like solid state radios and recording devices. This impact is the result of several factors: miniaturization, ease of operation, economy, and finally extremely low power requirements which permit extended field operations independent of AC power sources. Subsequent generations of chip, subchip and integrated circuits have led to the creation of a communications tool so pervasive that teachers, bankers and even governments have had to change their way of doing things. And the immediate future will witness even further refinements of current technology with the resultant emergence of breathtakingly new methods of information storage and retrieval. Certainly, those who had the good fortune to attend Dr. Nicholas Negroponte's recent NALLD demonstration at AECT in Denver of the Spatial Data Management System developed by the Architecture Machine Group at MIT knows that the interactive computer system depicted in the motion picture *Space Odyssey 2001* has arrived. (For a more detailed description of that exciting presentation, see the section entitled NALLD News).

A bit of crystal ball gazing into the immediate future reveals, among others, a vast expansion of our computerized society via CATV, the maturation of the interactive videodisc, and the proliferation of inexpensive, in-home, geo-stationary earth satellite receivers. As in the late 40's with the introduction of transistors, we are again on the doorstep of a quantum leap into the future. Low power requirements, economical cost and ease of operation will combine to increase the impact. In addition, the promise of solid academic dividends plus genuine cooperation among applied scientists, learning laboratory directors and foreign language specialists will play a significant role in the expanded use of computers, discs and satellite receivers by educational technologists.

When measured against the academic possibilities, the costs for satellite receivers are surprisingly economical. As was the case several years ago, when the prices of hand held calculators took a nose dive due to mass production, the price for effective satellite receiving stations will drop considerably. A recent but unsigned article in *Industrial and Educational Television* described and provided photography of a complete, table top satellite receiving system using a one (1) meter dish.¹ The price \$3,500. There are abundant rumors throughout the industry about SONY's plans to market an effective satellite antenna for \$600.. While many installations are professionally conceived, installed (and priced), many more are of the "home brew" variety, patched together by enterprising high school physics teachers, often assisted by local ham radio operators. From prestigious ivy league universities to backwoods high schools, satellite receiving dishes are popping up like mushrooms all over the country.

However, except for the thrill and experience of building (and rebuilding) such devices, applied science teachers have rarely had any long term, academic use for these projects. That is no longer the case. Foreign language teachers, for instance, could make significant and long term use of a satellite receiver.

Parked over the Equator at 123.5 degrees West, the WESTAR II satellite relays the Spanish International Network from Mexico City to many areas in the southern United States. Simultaneously, the Canadian ANIK III Satellite, from 99.5 degrees West, relays French language programs for 18 hours daily! Programming runs the entire spectrum from news, weather and sports, to features and motion pictures. While some program originators require the payment of a modest usage fee, other programs are absolutely free and only require the written permission of the originator, adequate equipment and the availability of adequate equipment. Certainly, the judicious use of a video recorder, in compliance with the copyright law, and in cooperation with the various program originators, would enable foreign language teachers to build an immense reservoir of inexpensive television materials in their target languages. At the same time, the science or physics teachers could easily justify continuation of the satellite reception project based on meaningful academic use by the foreign language department.

Admittedly, the sources for information on this emerging technology remain rather limited. While many periodicals such as **Popular Electronics** will carry an occasional article on satellite reception, the bulk of the information remains largely in the trade journals, particularly in those publications serving the cable industry. The C S Tepfer Co., Inc. 51 Sugar Hollow Road, Danbury, CT 06810, publishes at least three periodicals which often feature satellite related stories. Some of these periodicals are **ETV Newsletter**, **Video Play Magazine** and **Video Trade News**. Examination copies are available. Recently, however, **Mother Earth News**, a long-time and vociferous opponent of television, published an interesting pro-TV interview with Mr. Robert Cooper, a ham operator from Arcadia, Oklahoma, who seems to be fast becoming the most influential proponent of consumer, satellite receiving equipment. His company, Satellite Television Technology (POB G, Arcadia, OK, 73007), offers a wide variety of satellite equipment and study packages. Mr. Cooper even offers periodic workshops on satellite technology.

Even though sources of information on satellite technology are presently somewhat out of range of most technologists, our Association does possess a tremendous tool for ferreting out and exchanging information on videodisc and satellite projects - and that tool is our membership. The hundreds of NALLD members scattered throughout the world comprise a vast information network of media professionals joined together with common interests which, hopefully via the JOURNAL, can become a genuine clearing house for information on projects involving videodisc and satellites. The editorial staff remains at the disposal of the membership and wishes to encourage submission on new technology. These can be in the form of articles or notes. Naturally, proper credit will be given.

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