

# News

## COMSAT CENTRAL LIBRARY

### Buckley Keeps In Touch Using COMSAT Maritime Service



*A Standard-C ship earth station of the type used by Buckley (below) on his voyage.*

**I**n the days of Columbus, an extended ocean voyage meant months of total isolation on the open sea. When columnist William F. Buckley recreated Columbus' voyage to the New World last



November, he kept in touch using an Inmarsat approved Standard-C ship earth station and pre-operational Inmarsat-C data messaging service acquired through COMSAT.

For two weeks in November, Buckley and a group of close friends set out to retrace the famous explorer's path from Lisbon to Barbados. Keeping in touch with world events is vital to a political columnist, and the loan of the terminal and the free use of Inmarsat space segment fit the bill.

COMSAT loaned the terminal through the efforts of Mobile Communications Vice President, George Zachmann. When Dan Merrit, director of marketing at Buckley's National Review, was unable to obtain a terminal from a company that manufactures and markets them he turned to COMSAT.

Zachmann travelled to New York last Fall and demonstrated the equipment in Buckley's sister's Upper East Side Manhattan apartment. "It was the only place where we could see the satellite" said Zachmann. Systems support for

the voyage was provided by Mobile Communications' C-Link Service Development.

Buckley was pleased with what he saw despite the pre-operational nature of the service and decided to take the equipment with him on the trip. Besides monitoring current events, Buckley also used the Standard-C pre-operational service to file his syndicated column to United Press Syndicate Headquarters in Kansas City, Missouri.

It's just those kinds of services COMSAT's C-Link will provide to both maritime and land mobile customers beginning in October, 1991. The service will be available through COMSAT's coast earth stations in Santa Paula, California and Southbury, Connecticut. C-Link uses small inexpensive satellite terminals; making satellite communications accessible to a wider range of users.

Buckley, better known for his role as one of the nation's leading political pundits, is an accomplished seaman as well. Once every five years he plans an exotic voyage for himself and a select group of friends. Also planned is another sailing book based on this voyage.

Merrit, who travelled the first leg of the journey before coming ashore in the Canary Islands, told Mobile Communications' Marifacts newsletter he feels the service has "tremendous potential".

# EDUCATION

## COMSAT Commitment to Education Extends Beyond Jefferson Alliance

*Every Saturday morning from November to April, about two dozen students come to Clarksburg from around Montgomery County to participate in the Adventures in Science Program. Adventures in Science is a non-profit foundation dedicated to improving science education for younger students.*

**O**ur close relationship with Jefferson Junior High School is only part of COMSAT's commitment to education from the elementary to college level.

Every Saturday morning from November to April, about two dozen students come to COMSAT Laboratories at Clarksburg from around Montgomery County to participate in the Adventures in Science Program. Adventures in Science is a non-profit foundation dedicated to improving science education for younger students. COMSAT Labs is one of six sites used by the program to hold classes. On a regular basis, COMSAT employees design and give lectures to students on a variety of subjects.

Also at Clarksburg, all business units in conjunction with four area high schools, sponsor a work study program. Although many of the positions consist of office work, some positions now require increasing expertise in science says Wanda McKinley, senior staffing consultant for Clarksburg Human Resources. "One position we are offering right now requires a strong background in Chemistry or Physics—the student will have a real opportunity to learn as well as contribute in an exciting area."

The Labs also runs an extensive co-op program for highly qualified

college engineering students. Co-op programs, begun in the late 1950's, give college students a chance to gain work experience before graduation. Although participation in the program delays graduation, the experience gained is considered essential, especially for engineers said McKinley.

The Labs recruits most extensively from nine schools, but the majority of students is hired from the University of Cincinnati, Virginia Poly, MIT and the University of Maryland. Competition for the positions is fierce; applicants need a grade point average of at least 3.0 to qualify. The Labs maintains a level of about 30 students.

Besides giving the students valuable work experience, COMSAT gains some tangible benefits as well. Eventually, students are able to do work at the level of Labs staff said Robert Gruner, department manager of earth terminal antennas. "We use them as if they were young engineers. They help keep us on our toes with all the questions they ask."

Although many of the students go on to earn advanced degrees, some return to the Labs to become valued members of the staff. McKinley estimates approximately 15-20 per cent of all students are eventually employed at COMSAT.

The Labs' involvement with higher education doesn't end with the co-op program. Labs Assistant to the Director, Richard Arndt and Associate Executive Director, Janaki Potukuchi serve on an advisory board to the Engineering Department at Montgomery College. The board, known as the Electromechanical Systems Engineering Advisory Committee, meets three times a year. It advises the faculty on curriculum and course offerings. Now, Arndt and Potukuchi are urging the college to develop its own co-op program.

Arndt will also be leading Labs staff to the classroom this fall. He and the wife of a Labs employee who teaches at Howard University, are coordinating a plan to team-teach a course on satellite communications at the University in the Fall, 1991 semester.

## Two Jefferson Teachers Win Cafritz Fellowships

Diane Brown, a science teacher, and Errol Rose, a foreign language teacher at Jefferson Junior High School were awarded prestigious Cafritz Fellowships by the Morris and Gwendolyn Cafritz Foundation.

Up to 25 \$4000 fellowships are awarded by the foundation per year to encourage teachers in the District to pursue professional development or graduate study to improve their performance in the classroom.

## Patent Program Encourages Innovation, Excellence

**S**ince its founding, COMSAT Labs has been dedicated to be on the leading edge in research and development in satellite communications. To encourage and institutionalize innovation COMSAT has introduced an aggressive patent program.

A patent program serves several purposes according to Patent Counsel John Berres. Of most obvious benefit are profits COMSAT can make from the patent, which provides the legal basis for licensing technology COMSAT creates.

Two of COMSAT's better known and more profitable licenses are the flat plate antenna agreement with Matsushita and the licensing of B-MAC TV security to Scientific-Atlanta. Nickel-Hydrogen batteries have been licensed to Johnson Controls.

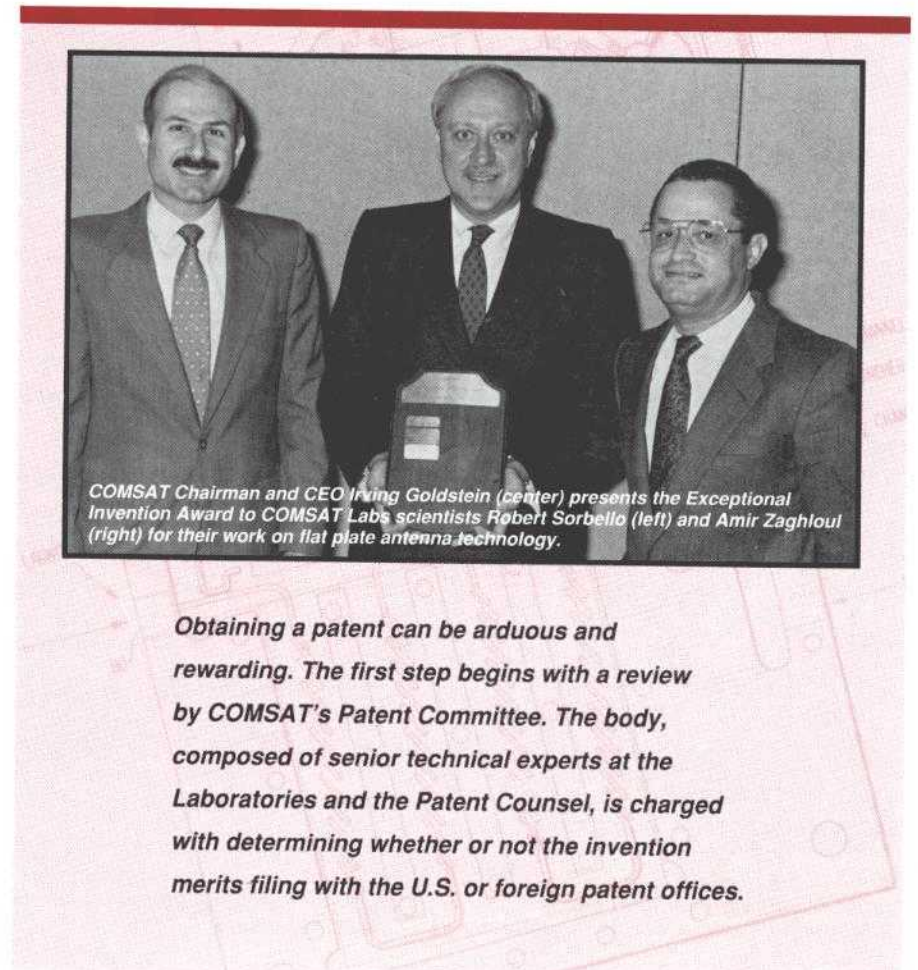
Both B-MAC and flat plate antenna technology are examples of technology being developed for use in a line of business, and then licensed to others, according to Dan Wells, former vice president, business development, CVE and now a COMSAT consultant.

With B-MAC, COMSAT wanted a product designed to handle a high quality, secure, satellite delivered signal. The initial application was intended for the COMSAT Satellite Television DBS venture. When that did not develop, the B-MAC proved very worthwhile for the hotel distribution business at CVE.

The flat antenna was also originally intended to be part of the home equipment for COMSAT's DBS business. So far no high power DBS system has evolved in the U.S., however the flat antenna is now sold in both Japan and Great Britain.

In either case, the development of the underlying technology by the Labs, the patent obtained, and the licensing will continue to produce a valuable source of supplemental income over the 10 year period covered by those agreements. In aggregate, patent agreements have generated about \$1.5 million to date. The patent program serves a useful defensive purpose as well, providing rights to offset claims of other patent owners.

The program also provides a measure to researchers of the value of their work. "It's a good measure to see how we stand



COMSAT Chairman and CEO Irving Goldstein (center) presents the Exceptional Invention Award to COMSAT Labs scientists Robert Sorbello (left) and Amir Zaghoul (right) for their work on flat plate antenna technology.

**Obtaining a patent can be arduous and rewarding. The first step begins with a review by COMSAT's Patent Committee. The body, composed of senior technical experts at the Laboratories and the Patent Counsel, is charged with determining whether or not the invention merits filing with the U.S. or foreign patent offices.**

up against other research facilities," says Labs Assistant to the Director Richard Arndt.

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If the Committee recommends filing, COMSAT's Legal Department steps in. A search is done of patent office files to determine whether the invention is already patented, or in the public domain. A favorable search usually results in a filing with the Patent Office. Berres says COMSAT averages about 30 inventions a

year, with the company filing on about 70 percent of those.

Next, a waiting game ensues. The Patent Office judges filings on two criteria: is the invention novel, and is the difference from previous devices obvious. It's not uncommon for two to three years to pass before a patent is issued.

Under COMSAT's Invention Incentive Program, inventors receive a filing award of \$300 when the Patent Committee decides to file for a foreign or domestic patent. If a patent is issued, the inventor receives a \$300 issuance award. (If there is more than one inventor \$600 is split among them for each of the filing and issuance awards).

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# FOREIGN BUSINESS

## CSD Unit Opens New Markets For COMSAT Through Overseas Joint Ventures

**A** department of CSD, COMSAT International Ventures (CIV), has opened new business opportunities by teaming with PTT's and foreign companies to provide satellite communications services. These ventures are helping many international businesses obtain high quality, reliable digital communications through IBS (Intelsat Business Service), domestic private line and VSAT services.

Since CIV was formed in 1989, two joint ventures have started in Latin America. SATEL, formed in 1989 with ENTEL of Chile, provides data services from Chile to the U.S., Canada and Europe. Current SATEL customers include American Express, IBM, Unisys, Chase Manhattan Bank, Citibank and Banco de Chile. SATEL provides these companies with high quality, dedicated

IBS circuits, which are especially cost effective as they multiplex several voice channels together with data circuits on a single 64 kbps IBS circuit.

SATELITAL, formed in 1990, partners COMSAT with IATA-ALCATEL of Argentina. IATA-ALCATEL has over 30 years experience in communications in Argentina. SATELITAL provides an excellent marriage of COMSAT's satellite experience with IATA-ALCATEL's experience in Argentine communications services. SATELITAL offers domestic private line services via digital satellite links, and will install their first circuits in the first quarter of this year.



Bruce Crockett and Joel Alper present a model of Intelsat VII to Mariano Allende, General Manager of SATEL (center) and Ivan Van de Wyngard, Chairman of ENTEL-Chile (left), in celebration of the first anniversary of service inauguration and in recognition of SATEL's success.



Argentina—Ricardo Perrotta, General Manager of IATA-Alcatel (COMSAT's joint-venture partner), receives a model of Intelsat VII from Bruce Crockett and Joel Alper at a press reception announcing the start of SATELITAL.

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The burgeoning business opportunities in Latin America have spurred CIV to open its first foreign office in Buenos Aires, Argentina this month. Jorge Torrico, business development manager, CIV, has been named to head the office. "Being from Chile, Jorge knows the Latin American market very well," says John Vargo, vice president, CIV. "He'll greatly aid our efforts throughout Latin America."

CIV also has two other foreign ventures virtually ready to provide IBS service, one in Venezuela, the other in Turkey. Also on a global basis, CIV is pursuing several excellent opportunities in Eastern Europe and Asia.

## Training Programs Promote Economic Development, U.S. Business

**S**ince 1963, COMSAT has been committed to promoting the growth of satellite telecommunications technology worldwide, especially in developing nations.

Recently, the National Telecommunications and Information Administration (NTIA) recognized COMSAT World Systems Division (WSD) for a telecommunications training seminar it participated in in Malawi last August. COMSAT Labs Vice President and Chief Scientist Dr. S. Joseph Campanella, travelling to Malawi under the sponsorship of NASA, lectured extensively on a wide range of satellite communications subjects. A seminar segment on satellite systems operations management was organized and presented by WSD's Communication Systems Standards Director, Carl Sederquist. The entire program was sponsored in conjunction with the International Telecommunications Union and NASA.

"The seminar went far to help establish COMSAT's reputation as a world leader in satellite communications" said Campanella. "It helped create a reservoir of goodwill for COMSAT in the area".

"A program like this one presents a great opportunity for everyone involved. When I met the head of Malawi's PTT I was able to introduce him to the concept of privatization in order to fund and bring satellite business and television to his country," said Sederquist.

The Malawi project is only a small part of COMSAT's commitment to bring top flight training to developing countries. In 1982, COMSAT was a founding member of the United States Telecommunications Training Institute (USTTI), a joint venture between government and private business, designed to share U.S. technical advances in telecommunications.

COMSAT's role in the program took on a special significance in light of President Bush's trip to Eastern Europe last year. During his trip, the President pledged to aid Eastern European nations in making the shift from a planned economy to capitalism. For the shift to be successful, Eastern Europe's communications infrastructure must be overhauled. Following a fact finding mission to Eastern Europe by NTIA



Director Janice Obuchowski and USTTI Chairman Mickey Gardner, the two approached COMSAT to design a training program for telecommunications professionals from Poland. COMSAT designed and held a ten day seminar on new digital satellite technology and services.

"That training session was vital to a country like Poland," said Ray Crowell, director, industry and government planning. "The telecommunications infrastructure in Poland is antiquated. To ensure the change to the free market is successful the infrastructure needs to be upgraded—they don't have any choice."

The training sessions are of benefit to COMSAT and U.S. business interests as well. "These training programs are often the first step in cracking foreign markets," said Vice President, Government Affairs, William K. Coulter. COMSAT's efforts have also aided the U.S. government. In the past, developing countries criticized the U.S. for not exerting enough effort in the area of telecommunications. "The U.S. was making a great effort," says Coulter "we just weren't doing a good enough job of publicizing it." In a 1989 State Department report, COMSAT was one of only five private companies cited for their work in communications development. The State Department was able to use the report to demonstrate the positive contribution made by the U.S.

"Everybody wins with our training programs," said Crowell. "We provide valuable training these nations need to improve communications; U.S. business gets an entree into a foreign market, and we strengthen the INTELSAT global system."

*Dr. Joseph Campanella, vice president and chief scientist, COMSAT Labs conducts one of his lectures on satellite communications in Malawi. Campanella spent a full week in the African nation lecturing on a wide variety of subjects at the ITU sponsored event.*



*Janice Obuchowski, assistant secretary communications and information, U.S. Department of Commerce presents Vice President, Government Affairs Bill Coulter and, WSD Vice President, Business Technology and Standards, Ivor Knight with a plaque recognizing COMSAT for its work in Malawi.*