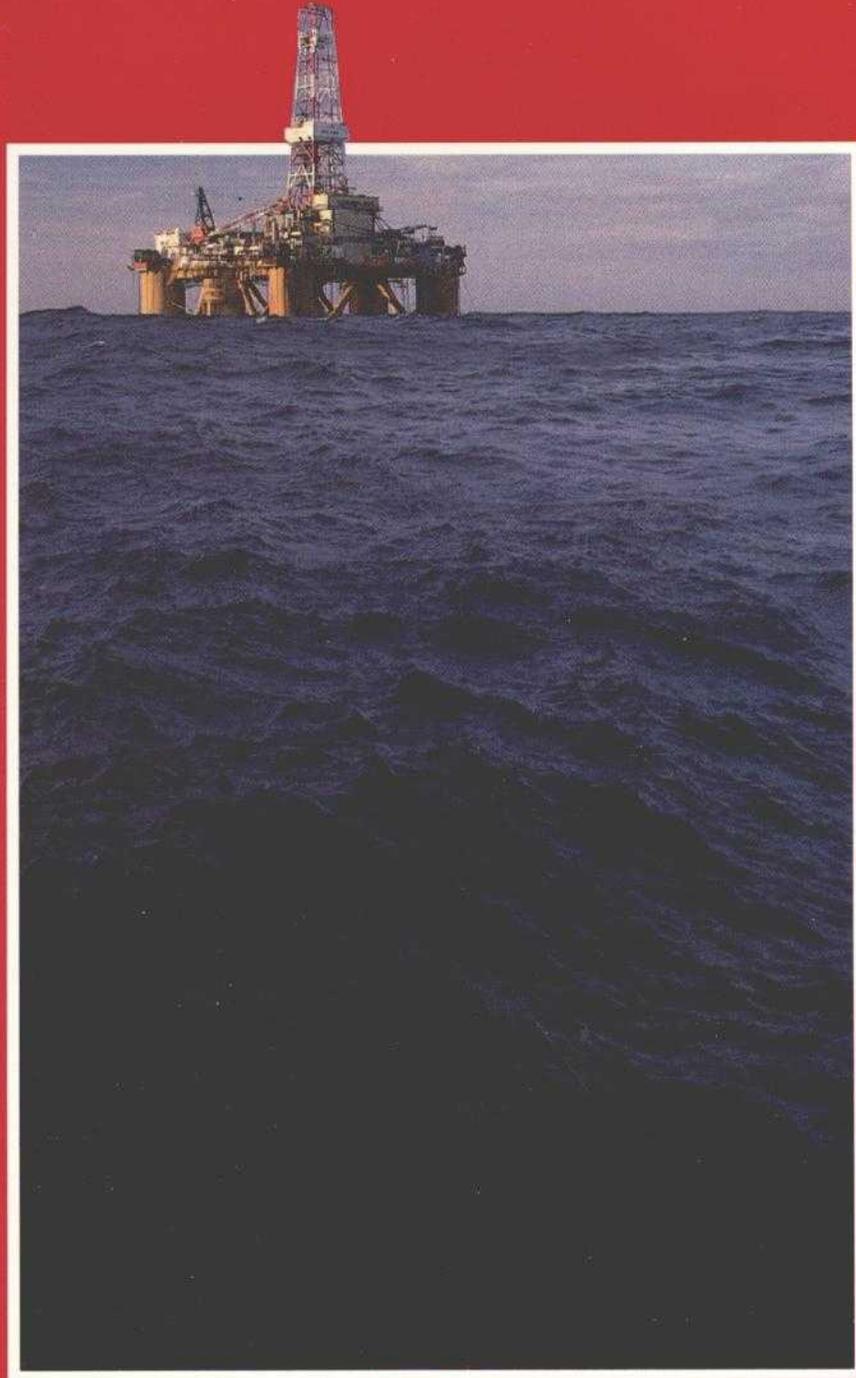


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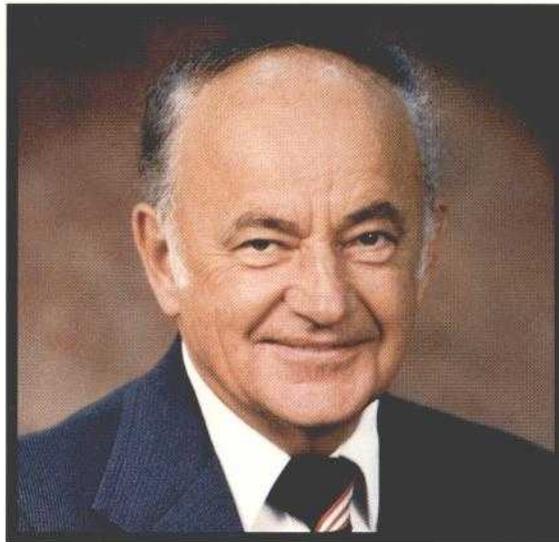
COMMUNICATIONS SATELLITE CORPORATION MAGAZINE

1985



NUMBER 16

VIEWPOINT



*by Dr. Joseph V. Charyk,
Chairman and Chief Executive Officer,
Communications Satellite Corporation*

In a rapidly changing business environment, Comsat's objective is to serve its customers better. In part, our recent reorganization is reflective of our desire to bring greater responsiveness and flexibility to the way we interact with our user publics.

Comsat International Communications, Inc., for example, a part of the new Comsat Communications Services Division, is offering end-to-end service to customers with international communications requirements, as it seeks to fulfill its role as Comsat's first retail international carrier. Comsat International also becomes the entity responsible for the Corporation's full range of international earth station services, an organizational move responsive to the Federal Communications Commission's requirement that Comsat keep its jurisdictionally mandated space segment services separate from its international earth station business.

Innovation in private network services involving video, voice and data with emphasis on U.S. domestic applications will continue to be the thrust of the streamlined Comsat General Corporation, and at the same time, the Comsat General staff is seeking ways to bring the benefits of its NBC video distribution system and the Hi-Net system, currently under development in partnership with Holiday Inns, to the widest possible number of end users.

Within the new Comsat Space Communications Division, the emphasis on serving customers is no less great. The Intelsat Satellite Services group is concentrating on making sure that the

customers for the more than 16,000 circuits it makes available through the Intelsat system remain convinced that service via the Intelsat global satellite system is right for them. By consolidating the Corporation's previously disparate consulting activities in the Technical Services group, we are making it possible to better mobilize the problem-solving talent at Comsat to address the needs of telecommunications users around the world. Comsat Laboratories also has increased its service focus as it seeks more outside contracts, like the recently awarded ACTS subcontract, at the same time that it brings research and development to bear on making Comsat's other business units more competitive and, hence, of greater service to customers.

The Technology Products group will continue to be a principal means by which innovative equipment ideas—many arising out of work at Comsat Laboratories—will be brought to the marketplace in response to user needs. The latest example is a small aperture Ku-Band earth station designed for two-way interactive data transmission.

And Amplica, one of the Technology Products companies, will continue to work in concert with the Laboratories to deliver new and better products for the defense establishment as well as for the consumer marketplace where it is becoming a major entity in providing home satellite equipment.

To put the matter simply, if you are a user of communications and if you have a specific need, the chances are that a part of the new Comsat can help you.

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Departments

Notes 2

Articles

Priority at Comsat: Putting marketing first; an interview with Stephen Day 5

Comsat Magazine goes on board an OIL RIG 10

Curtis Mathes and home satellite television 20

Amplica and home satellite television 26

American Samoa, five years later 30

Cover: An oil exploration drilling rig and nothing else but ocean. An oil rig can be a lonely outpost for the people who live and work on board. Satellite communications and specifically the service offered by Comsat Maritime Services via the Inmarsat system is helping to ease the loneliness—and, just as important, is helping the oil companies that lease the rigs to achieve greater cost efficiencies while making operations safer overall. William J. Megna, Comsat Magazine's Chief Photographer, traveled to one such rig, the 212 by 281 foot John Shaw on the Grand Banks, 180 miles southeast of St. John's, Newfoundland. Our report on the oil rig and the importance of satellite communications to it begins on page 11.

CONTENTS

From the Editor

The breadth and variety of applications for satellite communications and their many benefits—that in capsule form describes the content of the current issue of **Comsat Magazine**. Whether serving oil exploration drilling rigs several hundred miles out at sea or bringing modern communications to a beautiful collection of islands in the South Pacific that previously were totally dependent on poor-quality high frequency radio, satellite communications and specifically the services of the Communications Satellite Corporation break the distance barriers between people and improve the operations of a variety of businesses. At the same time, **Comsat** through the CTP company **Amplica** is increasing the television viewing options for the television viewing public, thanks to the growing acceptance of its home satellite television product.

And now some much deserved credits. For making it possible for William Megna, our Chief Photographer, to spend three full days on a working drilling rig on the Grand Banks, our deepest thanks to Sonat Offshore Drilling, Inc., of Houston, Texas, and to Mobil Oil Canada, Ltd. Specifically, we must recognize Harvey Morton of the Sonat office in St. John's, Newfoundland, and

Susan Sherk of the Mobil Oil Canada office in St. John's. In addition, Brian Garner of BG Electronics was a great help to us, and we mustn't forget Garry Stephens, Bos'n of the drilling rig John Shaw, our chief guide and mentor during our three-day stay.

For assistance during William Megna's stay on American Samoa, we owe High Chief A.U. Fuimaomo our deepest thanks, and we also must acknowledge the unstinting help of William J. Surber, former Manager of the Comsat Earth Station at Tafuna, American Samoa, who is currently on assignment at Comsat headquarters.

In our work with the Curtis Mathes organization, whose headquarters is in Irving, Texas, a suburb of Dallas, we had much help from Barry H. Goldberg, Manager, National Promotions and Merchandising, and the staffs of two Dallas-area Curtis Mathes Home Entertainment Centers—one at Forest Lane, the other at Preston Forest Square—could not have been more accommodating. It is impossible for us to mention everyone who helped us at both locations, but we must not forget Wally McCoy, Sales Manager, Curtis Mathes Satellite Systems, who provided outstanding assistance.

Stephen A. Saft



For first quarter of the year, Net Income shows increase

Consolidated Net Income for the Corporation for the quarter ended March 31, 1985, was \$15.9 million, or \$.88 per primary share, an increase of \$3.5 million, or \$.20 per primary share, over Consolidated Net Income for the first quarter of 1984. Operating Revenues were \$121.9 million, an increase of \$16.7 million over revenues reported for the same quarter last year.

The increase in Net Income primarily reflects the absence of a \$3.3 million, or \$.18 per share, loss incurred in the first quarter of 1984 related to the Corporation's partnership interest in Satellite Business Systems (SBS). Comsat sold its interest to the other SBS partners during the third quarter of 1984. The increase in Net Income is also attributable to reduced expenses in the Corporation's direct broadcast business and from increased interest income from temporary cash investments. These improvements are partially offset by increased expenses associated with non-regulated research and development activities and increased losses in the equipment manufacturing business due to increased product development expenses.

Income from Continuing Operations was \$15.9 million, an increase of \$.3 million, or \$.02 per share, over the first quarter of 1984. This increase is primarily attributable to reduced expenses in the Corporation's direct broadcast business and increased interest income from temporary cash investments. These improvements are partially offset by increased expenses related to non-regulated research and development activities. Also offsetting these improvements are increased losses associated with telecommunications equipment product development.

The increase in Operating Revenues results principally from increased revenues for services Comsat provides through the International Telecommunications Satellite Organization (Intelsat) and through the International Maritime Satellite Organization (Inmarsat), for services Comsat provides to NBC for distribution of network television programming, and from higher sales for the Corporation's equipment manufacturing business.

John Sculley, CEO of Apple, nominated to Comsat Board

John Sculley, President and Chief Executive Officer of Apple Computer, Inc., has been nominated for election to the Board of Directors of Comsat. Mr. Sculley and eleven current shareholder-elected Board members are being nominated to serve terms that will begin on May 17, 1985 and continue until the next annual meeting.

In its 1985 Proxy Statement to shareholders, Comsat made public the nomination of Mr. Sculley and eleven current shareholder-elected directors. They are: Joseph V. Charyk, Frederick B. Dent, Elliott M. Estes, Walter A. Fallon, Lewis W. Foy, Irving Goldstein, William W. Hagerty, Melvin R. Laird, Ellmore C. Patterson, Charles J. Pilliod, Jr., and Bruce G. Sundlun.

Mr. Sculley is standing for election to replace William L. Zimmer III, who is retiring. Mr. Sculley has been President and Chief Executive Officer and a Director of Apple Computer, a manufacturer of personal computer systems, since April 1983. He was President and Chief Executive Officer of Pepsi-Cola Company from 1977 to 1983. He held several other positions with Pepsi-Cola, including Senior Vice President, Marketing.

He graduated from Brown University in 1961 with a Bachelor of Arts degree in architecture and earned a Masters in Business Administration from the Wharton Business School in 1963. Mr. Sculley is 46 years old and a native of New York.

Major realignment is aimed at strengthening all businesses

Comsat has announced a major realignment that is designed to strengthen both the company's new and its existing businesses. As a result of the changes, three divisions will manage all Comsat businesses under the general management of Marcel Joseph, previously a Vice President of General Electric Corporation who has been named Executive Vice President of Comsat. The Space Communications Division, with Joel Alper, President, will provide the regulated Intelsat satellite services and maritime ser-

John Sculley, President and Chief Executive Officer of Apple Computer, Inc., has been nominated for election to the Board of Directors of Comsat.



N O T E S

vices, previously available from Comsat World Systems Division. Comsat's technical and consulting services will be consolidated in a new organization which, along with **Comsat Laboratories**, will be units of this division.

The Communications Services Division, led by Robert Kinzie, President, will include a new subsidiary that will provide international telecommunications services and manage Comsat's competitive business in earth stations for international transmission. Comsat General Corporation, which will become a unit of this division, will continue to provide communications systems and network services. Satellite Television Corporation (STC) and Environmental Research & Technology (ERT) are also units in this division.

Comsat Technology Products (CTP), under its President, A. William Perigard, will continue to develop and market selected telecommunications equipment.

Commenting on the announcement, Comsat Chairman and Chief Executive Officer, Dr. Joseph V. Charyk, explained, "Through this organization, we have established a clear strategic direction for Comsat that includes key ongoing businesses and new, competitive ventures." Comsat President Irving Goldstein added, "This realignment of our businesses will result in a Comsat organization that is stronger in every respect. Our solid financial condition, combined with our top quality management team, positions us firmly for long term growth."

Comsat's new Space Communications Division will include four units reporting to its President, Joel Alper: (1) Intelsat Satellite Services, headed by Coleman Guthrie, Vice President and General Manager; (2) Maritime Services, under the continued management of George Tellmann, Vice President and General Manager; (3) **Comsat Laboratories**, under the continued direction of John Evans as Vice President and Director; and, (4) Comsat Technical Services, headed by David Beddow as Vice President and General Manager.

Comsat's new Communications Services Division, under Robert Kinzie, President, will include four units: (1) Comsat General Corporation, headed by William Mayo; (2) Comsat International

Communications, Inc., a new subsidiary, headed by William Taylor; (3) ERT, with Norman Gaut continuing as President, and Robert Dunlap as Executive Vice President; and, (4) STC, where Robert Kinzie will remain as President, and Michael Alpert as Executive Vice President.

In related action, William L. Mayo, formerly Executive Vice President, was elected President of Comsat General Corporation, and William C. Taylor, formerly Senior Vice President, was elected President of Comsat International Communications, Inc.

In addition, Comsat also announced several changes in the corporate staff. Bruce Crockett, Vice President, Finance, has been elected Vice President and Chief Financial Officer, and he will assume certain additional responsibilities in the areas of administration and procurement. Mr. Crockett will report to Mr. Goldstein. Jerome Breslow, Corporate Secretary, will report to Willard Nichols, Vice President and General Counsel, who continues to report to Dr. Charyk.

Marcel P. Joseph is elected Executive Vice President

Marcel P. Joseph has been elected Executive Vice President of the Corporation. In this new position, Mr. Joseph will report to Comsat President Irving Goldstein and will be responsible for the management and operations of all of Comsat's business units.

Marcel Joseph comes to Comsat with 24 years of experience at General Electric Corporation, serving most recently as Corporate Vice President and General Manager of the Transportation Products Division in Erie, Pennsylvania. In earlier assignments, Mr. Joseph had held several general management positions with GE beginning in 1974 as General Manager of International Ventures Operation. In 1975, he was a General Manager in the Plastics Business Division and in 1980 he was General Manager of GE's Specialty Motor Department.

Commenting on Mr. Joseph's selection, Irving Goldstein explained, "We are delighted to have Marcel join the Comsat team in a top position. Over 10 years of

Marcel P. Joseph, formerly Corporate Vice President and General Manager, Transportation Products Division, General Electric Corporation, joins Comsat in the new position of Executive Vice President.



general management experience at GE, with an impressive record of results, qualifies him well for our most important operating position. His appointment represents the first step in a major realignment of our business functions." Comsat's Chairman and Chief Executive Officer, Dr. Joseph V. Charyk, added, "Marcel Joseph brings the experience and demonstrated competence that complement our management team very well. As we position Comsat for long term growth, these attributes will be among our most important assets."

Marcel Joseph is 50 years old and a native of Fall River, Massachusetts. He earned a Bachelor of Science degree in Mechanical Engineering from Southeastern Massachusetts University in 1957 and a Master of Science degree in Mechanical Engineering from Rensselaer Polytechnic Institute in 1962.

Partnership of Comsat, TRT to own international facilities

Comsat and TRT Communications, Inc., have signed an agreement to form a partnership which plans to establish, own and operate international business earth stations in the New York City and Washington, D.C., areas. The first partnership station will be located at the New York Teleport on Staten Island and is expected to be ready for service in May. Under the agreement, each partner will share equally in the ownership and operation of the earth stations.

The specific Comsat business unit that will be working with TRT to fulfill Comsat's responsibilities to the partnership is the new Comsat International Communications, Inc., which is headed by William C. Taylor, a longtime executive of ITT who joined Comsat in the fall.

Speaking for TRT Communications, Inc., the President, David H. Lubetzky, commented, "There is a growing market demand for international wideband digital business services that is currently not being satisfied by existing facilities. We believe that this partnership will provide an effective means to meet this demand."

The New York earth station will receive and send all-digital transmissions

between the New York metropolitan area and locations in Europe, North and South America and Africa. The international business earth stations will have the capability to provide digital communications facilities at rates of 64 kilobits per second to 2.048 megabits per second and higher for a variety of services, including digitized voice, data, computer-to-computer communications, and video-conferencing. Customers that utilize the earth stations will be able to obtain improved service at reduced costs.

Turner Broadcasting orders Intelsat service for live feed

Turner Broadcasting Systems, Inc. (TBS), has ordered service from the Comsat Space Communications Division and British Telecom International (BTI), the U.S. and U.K. signatories of Intelsat, for the live transmission of Cable News Network (CNN) from Atlanta, Georgia, to Europe beginning on or about September 15, 1985. The live feed will provide European Broadcasting Union (EBU) members with 24 hours of world news per day.

The agreement calls for a seven-year lease on a 36 megahertz (1/2 transponder) bandwidth on the Intelsat V Atlantic Ocean region satellite located at 332.5 degrees East. The agreement further includes TBS's reservation for the other half of the transponder. The service will be a "cross-strapped" transmission, uplinked in Atlanta at C-band and downlinked in Europe at Ku-band.

The signal will be downlinked in the U.K. by BTI and made available to European customers for excerpting purposes, free of charge, for a three month familiarization period. Through the high-power Ku-band technology, CNN will be receivable in Europe by dishes as small as three meters in diameter.

The 24-hour news service will be uplinked from the Turner Teleport facilities to be constructed in Atlanta, Georgia. The CNN transmission to Europe will inaugurate the first services from Turner Teleport, Inc.

"I'm proud to be part of this historic effort that links our continents," said TBS Chairman of the Board and President

COMSAT

Marketing

Priority at COMSAT PUTTING MARKETING FIRST

Stephen Day, Vice President of Corporate Development, addresses the importance of marketing to the future of COMSAT.

Comsat's future depends on its ability to transform itself into a marketing-proficient organization. With those words as our premise, we decided to devote a section of this Comsat Magazine to the all-important subject of "Comsat and Marketing." We do that through an interview with Stephen Day, Vice President, Corporate Development, for Comsat. In addition to overseeing all cor-

porate development activities at the Corporation, Mr. Day serves as Comsat's coordinator of corporate-wide marketing activities.

Mr. Day has been with Comsat since March 1982 when he joined Comsat General Corporation. Previously, he was with E.I. DuPont de Nemours and Company, in Geneva, Switzerland, as European Sales Manager, Electronic Products. Earlier, Mr. Day held a variety of line and staff positions with DuPont in the United States, including Manager of New Business and Planning for the Electronic Materials Division, a variety of jobs in sales and marketing, and was a member of DuPont's Corporate Planning Group.

Continued next page

Q Your title is Vice President of Corporate Development but you have some responsibility for marketing activities in the Corporation. Would you please explain what those responsibilities are?

DAY. The specific marketing role that I was given is really in two areas: One is a coordinating function across the Corporation, and the other one is to operate as a catalyst to stimulate our operating divisions to put the marketing piece of our competitive arsenal at the forefront—and to try and achieve the orientation that *everyone* in Comsat shares a marketing responsibility.



Stephen Day, Vice President, Corporate Development, speaking at one of Comsat's annual marketing seminars.

Q What was the rationale, do you think, in creating the corporate level marketing function at Comsat?

DAY. Let me just emphasize one point because I want to avoid confusion. At the moment we don't have a separate corporate marketing function. We have it integrated with Corporate Development, and there are, of course, many other activities within Corporate Development.

I think the prevailing feeling is that we want our fundamental formal marketing to be within the operating groups. The activity that we have on the corporate level must serve a coordinating role, and *not* a monolithic corporate marketing function, divorced from the operating units.

The rationale behind establishing the kind of corporate-level marketing function we have

includes some of the following considerations:

- One is to develop a professional marketing capability across the company, and that requires some corporate input. An annual marketing seminar and quarterly Marketing Directors meetings help in this process.
- Another part of the rationale is to generate a stronger customer focus across Comsat, rather than the technical or legal focus that the company traditionally grew up with.
- Another one is to search for joint customer opportunities. These are opportunities that often transcend a particular operating division. And unless we operate on a corporate basis, we are going to miss those types of major opportunities—opportunities that may be too big for one line of business to focus on.
- Another part of the rationale is to assist our operating groups by using, and getting to the forefront, Comsat's broad corporate capabilities, by means of, for example, brochures, presentations, trade shows, corporate advertising and foreign marketing operations. A lot of those things you can't do unless you take the corporate position. So it is crucial that corporate management gets involved in the marketing process to complement each operating division's marketing efforts.
- Another part of the rationale has to do with people. It's the company looking out for its best marketeers, developing their careers and encouraging personal mobility. Hence, we will constantly look to see where our good marketeers are, keep an eye on them, and motivate them and bring them up through the organization.

Q How does marketing fit within the plans for growth that we have at Comsat?

DAY. We have stated that we want to be at least a one billion dollar company by 1990. At the same time, we want to be a highly profitable company. The sales by themselves mean nothing unless we are a profitable company. That's a big change from the \$440 million dollar company that we are at the moment, a company with more than 60 percent of its revenue from regulated activities. We are talking about a significant change.

We are not going to make that sort of transformation without having a significant increase in our marketing capability. I can't put enough emphasis on that. If we focus only

on the technical side, we are not going to succeed. It's a tough, cruel world out there, and marketing as a competitive piece of our arsenal is becoming more and more important. **Intelsat's** monopoly is being chipped away, and transoceanic fiber optic cables are on the horizon. There are specific plans to have these highly competitive fiber optic systems operating before the end of the decade.

We have to do some of the same things that AT&T is doing, which is to become much more customer focused. Only, we have got much less time to do it in. The advantage for us is that we're a lot smaller. So it should be easier for us to change, but we've got less time.

I suspect that if you went back to 1979 to see how the Corporation was predicting it would change by the mid 1980s, you would find some of the same words used that I have been using. We foresaw the Company's transformation from a situation where revenues from our rate-regulated businesses were dominant, to one in which most of our revenues would be from our competitive businesses. That hasn't turned out. We are still predominantly a rate-regulated corporation in terms of revenues. As I said, over 60 percent of our revenues are rate-regulated. So you should properly ask, what is different today? Are we just saying the same thing about 1990 that we said about 1984? And if we are just saying and doing the same things, we're in trouble. Collectively, from the most senior to the most junior employee, we all have to take part in this change.

Q *Why is 1984 different from 1979? What are the causes for optimism now that didn't exist in the Comsat of 1979?*

DAY. I suppose there are many answers to that. I'll come at it from a rather fundamental angle. I think our external environment is dramatically different. With the deregulation of AT&T, many telecommunication entities are being spurred to try to compete internationally



Comsat marketeers listen attentively to speaker at annual marketing seminar.



Stephen Day talks marketing during break at annual marketing seminar.

and domestically. That is forcing us or pulling us into a competitive environment. In addition, the reorganization announced by Dr. Charyk and Mr. Goldstein on April 4 strengthen and rationalize our operating businesses. The company now has three basic strategic business units: Space Communications, Communications Services, and Technology Products. Each of these SBU's has operating lines of business reporting to it. For example, our major revenue producer, **Intelsat Satellite Services**, now reports to the Space Communications Division run by Joel Alper.

The recent restructuring of the company in terms of our external investments, particularly SBS and the changing of our focus on DBS, will better position the Corporation and will focus **Comsat** in terms of opportunities that are closer to our capabilities. It's encouraging that we've made these decisions which have been very difficult to come to grips with. That's the pull of the environment.

Now the push from within is the desire to compete internationally and domestically. We want to do this, but at the same time we will uphold our responsibilities to the U.S. Government in **Intelsat** and **Inmarsat**. **Comsat's** top management, I think, is now infinitely more determined than perhaps it was five or six or seven years ago to do this and now sees a route which before was rather hazy and now is becoming crystal clear.

Q *What examples can you think of to prove that Comsat has become or at least is becoming a marketing force to reckon with?*

DAY. I'll respond to you this way. We have a long, long way to go. But having said that, I can quickly add that there are some extremely encouraging signs. Let's talk about **Comsat General**. Two years ago, we signed the con-

Photography by William J. Megna, Chief Photographer



Comsat U.K. is located at 9-10 Grafton Street in London, England.

tract with NBC. That was a very significant move in terms of rebuilding the Corporation. The fact that we could compete successfully against AT&T—and AT&T absolutely was our prime competitor—and take that business away from them, and not only that, but RCA has its own satellite capability—RCA being the parent of NBC—was just simply amazing. I would call that superb marketing by **Comsat General** in every sense.

From that success, we began building an image that we could compete, which is very, very important in the marketplace. The Holiday Inns HI-Net/Comsat General partnership resulted—in part anyway—from that demonstration of competence.

In addition, **Comsat General** has been successful in what I would call highly targeted government marketing opportunities. We've achieved some successes pursuing teleconferencing and teleseminars business. The effort, which is very tightly focused, has been very gratifying.

As for **Comsat Technology Products**, we've had several recent successes, involving MCI, for the Time-Division Multiple-Access equipment of TeleSystems; Curtis Mathes, for the TVRO equipment of Amplica; the Department of Defense, again for Amplica's products. We're going after Federal Express through CTP's Systems Group. It's public information that we're on their short list. That is no mean feat. **Comsat TeleSystems'** business with the Deutsche Bundespost is progressing. **TeleSystems** has picked up a significant piece of 60 megabit-per-second TDMA business at Western Union and RCA and recently signed a large contract for echo cancellers with Allnet. We have a superb relationship with Amsat that is being developed by CTP, and, hopefully, we will be supplying them with products before long. Those are all significant marketing capabilities that have developed within the last couple of years.

In the case of our newly formed **Comsat International Communications, Incorporated**, Bill Taylor's arrival in 1984 from ITT is highly significant. This line of business now has full authority to operate as a carrier following the organizational separation of our **Intelsat Satellite Services Business**. There are also activities underway to improve our account management approach particularly with our largest customer AT&T.

In the case of **ERT**, they've launched a new business, "Environet," which basically provides monitoring of specific state and federal legislation concerning the environment to major corporations. That's requiring a whole new approach in terms of how **ERT** markets its services.

So, there is tangible evidence that though we have a long way to go, we are beginning to move ourselves into advantageous positions.

Q *Various parts of the Comsat family of companies are now engaged in marketing activities overseas, and an office has been established in London and a joint venture in Japan, resulting in representation for us in that country. What is the scope of our overseas activities and specifically what are the objectives for the facilities representing us in the U.K. and Japan?*

DAY. Our objectives in having these overseas offices are, first and foremost, to establish presence in these major international marketplaces. Another objective is to facilitate the Corporation doing business in these major marketplaces for our lines of business—to make it easier for them. There are significant startup costs. If the Corporation can do this as a stalking horse, then our lines of business can move into position and get into business immediately, because we have infrastructure.

Another reason, of course—and there are many more—is to develop marketing leads to major opportunities and to get that information coming back into the lines of business so that we can capitalize on opportunities. These are opportunities that otherwise we wouldn't find out about. We'll read about them in the trade press when it's too late to go after them. We have to get our marketing antennae twitching so that we are aware of these opportunities early. And that process has started.

Our relationship with Sumitomo is a joint marketing effort, which we decided was the best way to exploit the Far Eastern opportunity initially, specifically Japan. Chuck Whitney runs our office over there, and our relation-

ship with Sumitomo in turn has led to a teaming effort with Mitsubishi to bid on the Federal Express contract. Federal Express is investing over a billion dollars in their satellite system. Mitsubishi is another extremely powerful and capable corporation. And we're using their RF technical capability, matching it with our networking capability, and we will assemble as a result a very competitive product for low cost 56 kilobit-per-second data networks, a product which will be useful not just for the Federal Express opportunity but also the high growth private data network market.

Comsat U.K., having only started two years ago, did more than a million dollars worth of business during 1984 in the Compact microwave software product line. It is looking forward to a doubling of business, and perhaps more, in 1985, and expanding the product line to include products and services from other divisions. So we're broadening our base over there. We have significant customers among the major corporations across Europe, that we're dealing with on a daily basis, and with whom we have contact by the hour. There is no substitute for being there when the customer needs you. You can really only do that by having a presence close to where your customers are. Thanks to Jon Collins, who runs the European office in London, we've established a presence and we're now in the process of broadening our activity and tightening our grip.

Q *We do appear to have some overlapping activities among our lines of business. Some might even say that these activities are competitive. One example is the activity in communications systems that is being performed by Comsat General and by Comsat Technology Products, CTP. Do you see these overlapping activities as bad or good?*

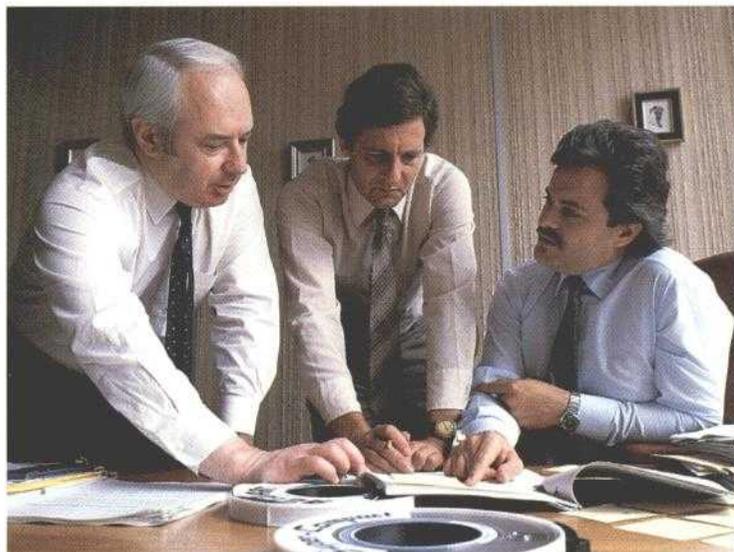
DAY. I think that a competitive interface among our lines of business is extremely healthy. But there is a proviso, and that is, as long as we coordinate our activities and don't cultivate what I'd call internecine warfare among our divisions. If you look at U.S. industry you'll find examples in corporations where the internal competitive struggle got the better of the corporation and substantially reduced its effectiveness.

You put your finger on the Comsat General and CTP competition. **Comsat General** comes at creating communications networks from a systems approach and with purchased equipment. **CTP** comes at it from an equipment approach and would arrange the space segment and so forth.

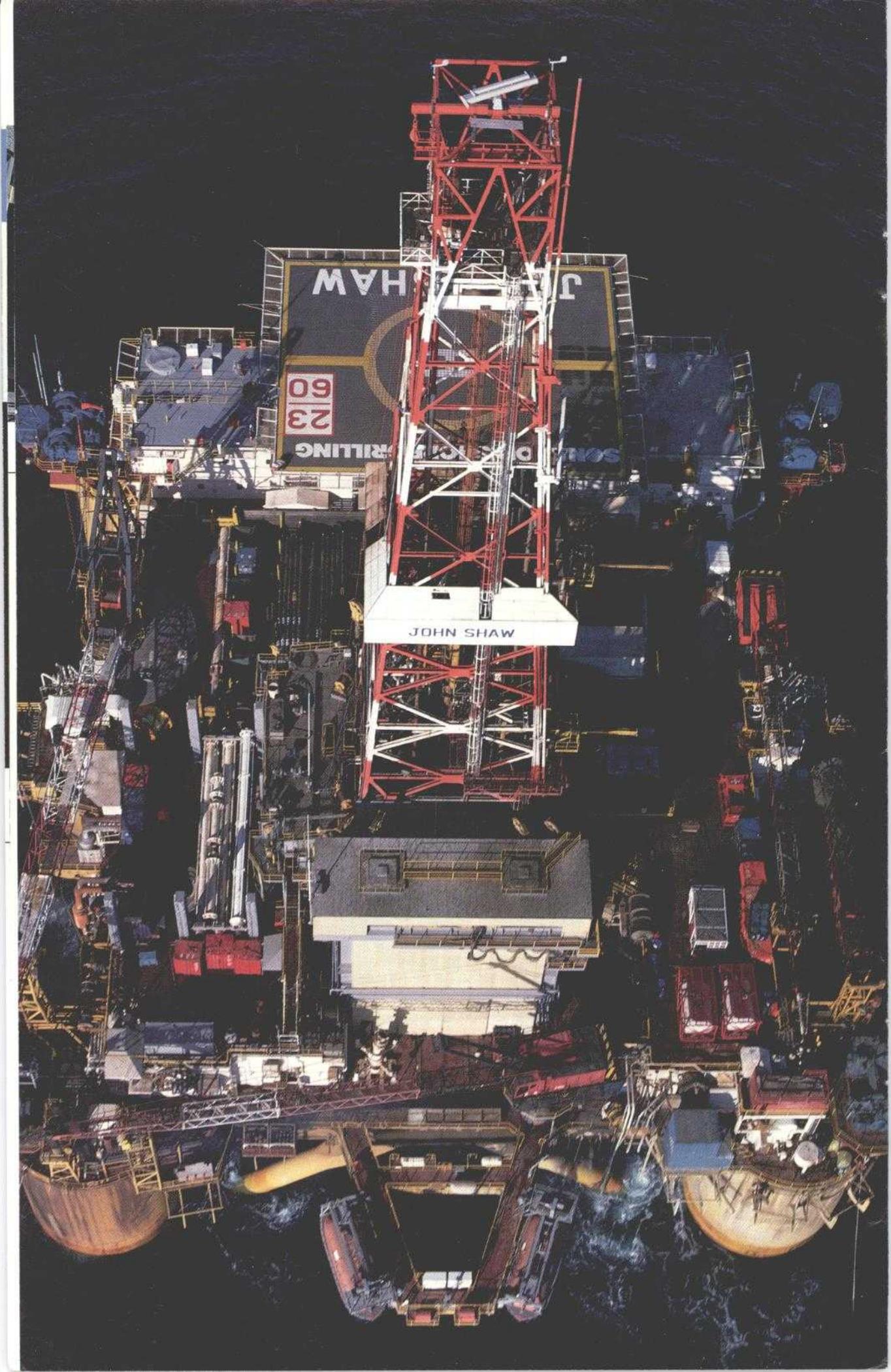
Clearly, if they are left uncoordinated, they are competing, absolutely competing. But

we've made a lot of progress, and there is now a good relationship between the top management of **CTP** and **Comsat General**.

What this suggests is that we may choose to combine certain marketing functions in the future so that the customer is better served. What we don't want is our internal competitive activities taking place at the customer's doorstep, with the customer left totally perplexed. There are some functions across **Comsat** that might be combined, certainly better coordinated. For example, the organizational changes of April 4 amalgamated our various telecommunications consulting activities into one group. This will considerably simplify our service to our customers worldwide and avoid unnecessary internal competition.



Marketing strategy in Europe is the topic for, from left, A. William Perigard, President, Comsat Technology Products; Stephen Day, and Jonathan Collins, Managing Director, Comsat U.K., at a meeting at Comsat U.K.



Comsat Magazine goes on board an

OIL RIG



William J. Megna spends three days on an oil rig on the Grand Banks to find out first-hand about the importance of satellite communications to man's search for oil offshore. Comsat Maritime Services provides the service through the Inmarsat system.

Even before there were permanent settlements in North America, the Grand Banks off Newfoundland in the North Atlantic lured fishermen. Hearing tales of a rich abundance of fish, they came to the storm tossed, fog enshrouded banks from every seafaring nation of Europe. Later, the whalers came too. Today the whalers are gone, but the fishermen—using steel trawlers or draggers propelled by large diesel engines, not the high masted wooden schooners with their fleets of nestable dories of their long-lining ancestors—share a part of the banks with a strange breed of seacraft whose quarry is not fish but oil.

Rather than dragging large nets along the banks' relatively shallow bottom, this new breed of seacraft drives a system of pipe through the bottom and ever deeper into the

Facing Page, View of John Shaw, semisubmersible drilling rig, as seen from helicopter about to land on rig's pad. Top, Pilot's view of rig as he comes in for landing. Right, Closeup of antenna radome for Inmarsat ship earth station on board the 212 by 281 foot John Shaw.

earth's mantle. From the craft's constantly revolving turntable down through the water and into the earth, the system of pipe sometimes stretches more than three miles. At its downward end are the gnawing teeth of the drill bit chewing through layers of rock.

Called semisubmersible drilling rigs, the craft are mainstays in the search for oil offshore. A derrick rising up from a platform containing living and working areas for as many as 100 people and in turn supported by six or more stout columns standing on two huge submarine hulls, the semisubmersible drilling rig is a vital part of the continuing effort waged by the oil industry to keep meeting the huge demands of a world hungry for gasoline, other petroleum products, and natural gas. The rigs are on the Grand Banks because preliminary survey work indicated and now subsequent exploratory drilling has confirmed the presence of large quantities of recoverable oil and gas. In one 25 square mile area, for example—an area in which semisubmersible rigs have so far drilled nine wells—it is believed that there are several hundred million barrels of recoverable oil and perhaps two trillion cubic feet of natural gas. Off the entire coast of Newfoundland and Labrador, an area of about 700,000 square miles, government estimates place the potential at between 12 and 15 billion barrels of recoverable oil and about 60 trillion cubic feet of natural gas.

Satellite communications—specifically, the service offered by the International Maritime Satellite Organization (Inmarsat)—plays a



Robert L. Eichberg is Director of Marketing, Maritime Services, Comsat Space Communications Division



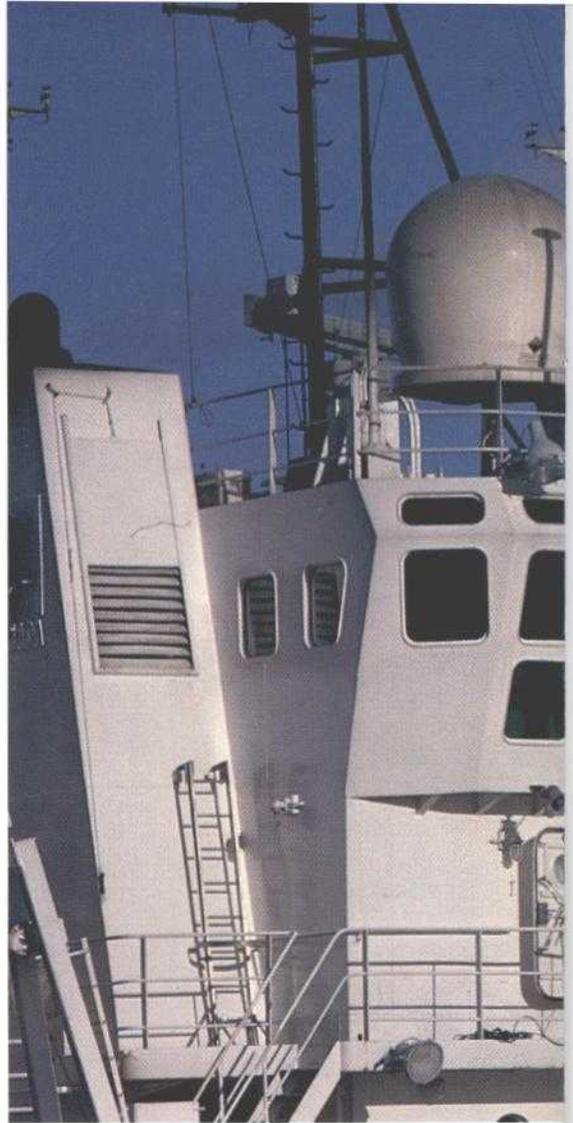
critical role in the activities of the oil companies on the Grand Banks. Operating in an area as much as a couple hundred miles from land, semisubmersible drilling rigs use conventional high frequency radio, but are growing more dependent upon satellite communications—especially any time that high quality and private voice and data communications are required. Data communications is proving itself increasingly more important for the management of drilling operations, and it is essential for rig safety as well.

The Grand Banks is iceberg and pack ice water. Using the Inmarsat system, the oil companies from their shore-base offices tabulate information received from air reconnaissance to feed the drilling rig crew with a steady supply of data, including facsimiled charts, on the positions of icebergs and pack ice. A rig in the path of an iceberg or pack ice has to be moved, a very time consuming operation requiring the aid of an on-station supply ship to bring in its set of huge anchors. Hence the kind of early warning afforded by satellite communications is essential to safe operations.

This past fall, William J. Megna, Chief Photographer of **Comsat Magazine**, had an opportunity to spend three full days on a drilling rig operating on the Grand Banks—the John Shaw. Built in Chiba, Japan, in 1982, the 100-person John Shaw, measuring 212 by 281 feet on deck, is owned by Sonat Offshore Drilling, Inc., of Houston, Texas, and is working under lease to Mobil Oil Canada, Ltd. Megna was able to make the 180 mile helicopter ride southeast from St. John's Newfoundland, to the rig. For three days, he photographed many aspects of life on board a drilling rig and, using a tape recorder, interviewed people directly concerned with communications activities. It is the excerpts of their words which follow.

Once back on land, Megna drove to Marystown on the southeastern coast of Newfoundland to witness maintenance activities being performed on two drilling rigs owned by Husky-Bow Valley, the Bow Drill I and the Bow Drill II. While in Marystown, Megna was invited to board the Bow Drill I and to talk with two people there. Their words on the value of the Inmarsat system to drilling rigs working on the Grand Banks are also included.

One additional word of explanation is essential. In the text that follows, the name "Marisat" is used throughout for the maritime satellite communications services now offered by **Inmarsat** through Comsat Space Communications Division's Maritime Services group. The name "Marisat" is presently used by **Comsat** to designate the three communications satellites operated by Comsat General Corporation to provide maritime service. Before **Inmarsat** came into being, the term also was used to refer both to maritime satellite communications service and to the terminals providing that service. As early pioneers in the use of maritime satellite communications, the people engaged in oil



exploration on the Grand Banks off Newfoundland continue to think of the service and the terminals as Marisat.

Stephen A. Saft

*A statement
by Robert L. Eichberg*

A very large portion of Inmarsat traffic via U.S. coast earth stations is associated with the offshore exploration and drilling industry operating along the continental shelves.

Telecommunications via the Inmarsat system has become a key operational tool in the routine activities of most exploration and drilling operations. In the short period since the activation of the first Marisat satellite in 1976, every major oil exploration company in the world has at one time or other used maritime satellite services for meeting its everyday communications needs.

The article that follows illustrates dramatically the value that the drilling rig crew member places on the services provided by Comsat Maritime Services.

Use of maritime satellites in conjunction with offshore operations was pioneered by Total-Eastcan in 1977 and Mobil Oil Canada, Ltd., in 1978 in the waters off of Newfoundland and Labrador. It was prompted by



these companies' desire to overcome a perplexing telecommunications problem plaguing the operations in this region: The recurring high frequency radio blackouts caused by the Aurora Borealis during the peak summer months of operation. The maritime satellite frequencies (i.e., L-band) do not suffer from such propagation problems.

Today, well logging and other measurements—while drilling operations are being carried out—are handled by live maritime satellite transmission links to land-based data processing plants located thousands of miles away in the Dallas and Houston areas in the United States and Toronto and Calgary in Canada. At the end of 1984, 108 seismic vessels, 223 drilling rigs and 66 offshore construction vessels were equipped with Inmarsat ship earth stations.

The following article with its series of statements by rig crew members provides a brief introduction to the offshore people who use and appreciate the service which Comsat provides over the Inmarsat system.

We respect and appreciate the offshoreman and the advanced technologies and techniques which he has introduced into our petroleum-dependent world of today.

Continued next page.



Above Right, The beautiful circular harbor of St. John's, Newfoundland, as seen at sunset. Top, Radomes for Inmarsat ship earth stations are an increasingly common sight on the ships in the busy harbor of St. John's, Newfoundland. This radome forms an interesting contrast with the government building on Signal Hill, background right, where on December 12, 1901 Guglielmo Marconi received the first transoceanic radio telegraphy message, from a station in Poldu, Cornwall, England. St. John's is a principal supply and service port for oil exploration activities on the Grand Banks.

Al Rhindress, Senior Drilling Foreman, Mobil, interviewed on the drilling rig John Shaw

Q *Does the presence of satellite communications on board the rig help you with your job?*

RHINDRESS. We use it for all our fax reports as well as for conversations with our people in St. John's. If I have to arrange for some parts or equipment from different service contractors that are located in St. John's, I can have a direct conversation with them without any radio interference or phone patch problems, which do occur. Also, if we have any problems with any equipment on board, we can contact the manufacturers at their locations for help.

Q *Can you give us an example of operations that are improved because of the presence of satellite communications?*

RHINDRESS. It gives us the capability of Darting (a Schlumberger service) our Schlumberger logs to Calgary. That helps reduce the waiting process for us before we

proceed with our next operation. As soon as the section that we're logging is completed, Schlumberger makes a tape and then sends it through a Dart system, which is connected to the Marisat. They Dart it to Calgary, and it is looked at by our geologists and engineers there. The major decisions are made from there as to whether we are in a zone that looks good and whether we should drill ahead or possibly end the well.

Jack Wilson, Assistant Drilling Superintendent, Sonat, interviewed on board the drilling rig John Shaw

Q *What value is satellite communications for the morale of the crew on board a drilling rig?*

WILSON. One thing that Marisat does is give the people that work on board the sense that they can be in touch with their people at home if something happens. They know that they can walk into the office and pick that thing up if something happens at home and talk to their people and find out what's going



Technician washes well logging probe that has just been removed from well or "hole." On the floor to his right is the rotary table, which imparts rotary motion to the whole drill assembly. Well logging is an electronic technique to determine the potential of the drill location.



The drill stem enters water and penetrates the bottom of the sea floor. Inside the exterior conductor pipe is the surface casing and drill pipe leading down to the drill bit itself, chewing through layers of rock.

on. Unless you have a Marisat, when you're working overseas or in a remote area like this, you are out of touch. You've got to appreciate that if you are working on a 21-day-on, 21-day-off, or on a 28-day-on, 28-day-off basis. These guys out here are away from home a long time. There's a lot that can happen in 28 days.

Rene G. Anobis, Radio Operator 1, interviewed on the drilling rig John Shaw

Q Can you give us some idea of the benefits of satellite communications for the crew working on a drilling rig on the Grand Banks?

ANOBIS. The Marisat system plays an important part. Propagation conditions sometimes make it quite hard to get telex traffic and voice communications over the air waves. Satellite communications eases that problem. It's very good.

Q What are the kinds of communications that are sent and received via satellite communications on the John Shaw?

ANOBIS. The requirements of the rig, some data from the hole, POB (people on board) lists, status of the rig, and ice reports. Ice reports are very important especially during the spring season when we get great numbers of icebergs and pack ice coming down from the north. In the mornings, we get on the average about 30 to 40 pages of fax pertaining to ice.

Q Is the presence of satellite communications a benefit to the morale of the drilling rig crew?

ANOBIS. It happens a lot that you try to talk to a family member over the radio, and she really can't hear you and you really can't hear her because of atmospheric conditions. You call her on the Marisat phone and you get a clear response. I'd say you have more of a sense of closeness than you do over the radio. You can see the change in the crewman's face after he's talked on the Marisat more so than you do after he's talked on the radio. Marisat is so clear. It's like talking on the home phone.

When you place a call for a crewman using the radio telephone through a coast station—say, to save money—you may have to wait to get proper reception or for a clear line and then there are the land line charges. A call through the radio telephone can be expensive. You have coast station charges and land line charges. Say you wanted to call England. It would actually be cheaper to use Marisat to call England or anywhere else that is far away. It would be cheaper, and you would get a much better line. I feel very happy when I get a crewman through. Everybody wants to talk to home. When a person walks out of the radio room with a satisfied look on his face, it gives me a great sense of pleasure.

That wouldn't happen without Marisat. Sometimes a person wants to call home with personal business. Say you call through the St. John's Coast Guard. The whole Atlantic is listening to you. Call through ordinary radio communications, and everybody is listening. If a crewman has some personal problems that he wants to look after, with the Marisat he gets a private line and a much clearer line.

Q Do you have any complaints about the system?

ANOBIS. No. I find Marisat very helpful. If, for example, you had to sit down and take down ice information, it would take forever. With fax off the Marisat, it's efficient. You get a clear picture, and it's just beautiful.

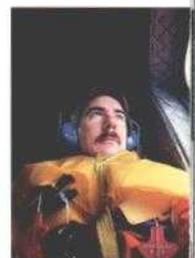
William Olsen, Rig Safety Training Technician (medic), interviewed on the drilling rig John Shaw.

Q Does the presence of a satellite communications link on board the John Shaw have any practical value for you?

OLSEN. I have a Marisat terminal in the rig's hospital. What it does for me is give me a direct hook-up via satellite to our physicians in St. John's. It's really good to have it. Through it, I can get instantaneous response to any particular medical problem I might have on board. I can get expert advice right away.

Continued next page

Words and photographs by William J. Megna, Chief Photographer, Comsat Magazine. (Mr. Megna, wearing survival suit with inflatable collar and ear coverings for noise protection, photographed himself in helicopter enroute to the John Shaw.)



Below, Gerald Walker, Radio Operator, makes a telephone call via Inmarsat. The derrick of the John Shaw is visible through the window of the radio room. Right, Frequent safety drills are standard practice on board the drilling rig John Shaw.



Q You were telling me about one drilling rig on the Grand Banks that is able to transmit TV pictures from the rig hospital to physicians on shore. We'd like to know more about it?

OLSEN. The medics on the rig use a video camera to transmit still pictures instantaneously via satellite to the Health Science Center in St. John's, Newfoundland. They appear as a series of lines on the TV monitor. After a delay of about 20 seconds, a complete picture is formed on the monitor. The doctor, seeing this picture on the TV screen, then decides whether or not the victim should be treated on board or evacuated by helicopter from the rig to the Health Science Center or some other hospital in St. John's.

The same system can be used for viewing a 12-lead EKG, electrocardiogram.

Dave Nuth, Schlumberger (well logging service contractor), interviewed on the drilling rig John Shaw.

Q Do you make use of the Inmarsat system on board the rig?

NUTH. Yes, definitely. In fact, Schlumberger is probably one of the bigger users on the rig. We use it for hours at a time. Our computer puts all our well logging data on tape. The data then gets played back via Marisat to the base. At the base, the data is put back into a computer. You get exactly what you've done on the well site directly to the client in Calgary or in Toronto or wherever you may happen to have the receiving station.

Q Do you think this technique saves money?

NUTH. The alternative would be flying the logs to St. John's and from there putting them on a plane to Calgary or Toronto. You're sav-

ing a lot of time using satellite communications, and that could mean money savings as well when you consider what a drilling rig costs per hour. If a company has to wait half a day or more for an interpretation of well logging data, you're costing them a lot of money whereas they'll know in only a couple of hours thanks to the Marisat whether they want to continue drilling or not.

Ed Brown, Exploration Logging Canada (Exlog, a service contractor), interviewed on board the drilling rig John Shaw.

Q What is Exlog doing on board the John Shaw?

BROWN. We monitor all drilling parameters as they occur through various sensors positioned around the rig. These sensors feed to our on-line computer. This information is displayed on CRT screens around the rig, and it is printed out on our teletype unit. We prepare this data in a graphical form for the client. Also we compile this information at the end of the well to provide a final well report.

Q Is satellite communications a benefit for your operations?

BROWN. At present, I believe it is being used with an automatic data transmission program that we have stored in our computer. The data is sent via satellite to the office in St. John's where it is printed on their teletype.

Gerald Walker, Radio Operator, interviewed on the drilling rig John Shaw.

Q What are the benefits of satellite communications, as you see it?

WALKER. It provides us with a quick secure line of communications. By secure I mean that it would be fairly difficult to tap into, as opposed to HF sideband radio. That's one advantage. Also, it gives us access to all of the world.



Q Can you give us an example of operations that are improved because of the presence of satellite communications?

WALKER. Because of the clarity of the system, there is absolutely no room for confusion. The spoken word is not necessarily always accurate. And the clearer the line of communications—which you certainly do get with satellite communications—the less room there is for error. It's a completely understood conversation on both sides.

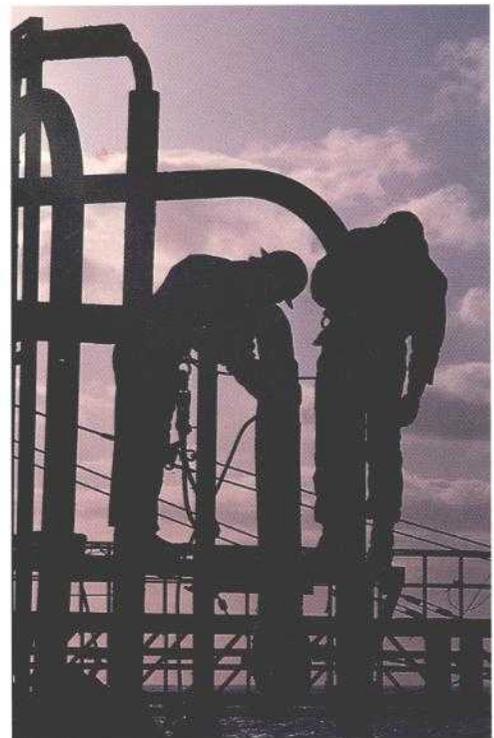
Q Can you think of any examples where the presence of satellite communications would be useful in an emergency?

WALKER. We have a direct line of communication with Memorial Hospital in St. John's, Newfoundland, through the data link to get any medical information that we might require. To us, Marisat is a telephone. We treat it as a telephone. It is nice to know that there is a satellite flying around up there taking in and transmitting information for us. But we treat it very much as we would any land-based telephone.

To know that we have the capability of issuing a distress signal over the satellite simply by lifting a flap and pushing a button and that our position is instantly transmitted to search and rescue is a real confidence builder.

Q It would be helpful to have some idea about the usage of satellite communications on board the rig with time breakdowns during a typical day.

WALKER. On a day to day basis, I'd say that we probably spend anywhere up to an hour and a half on data transmissions. Telephone voice traffic probably adds up to two and a half hours a day at least. We have a number of service companies that perform tasks out here during the drill operation. On an average day, they might spend anywhere between 45 minutes and an hour collectively on the Marisat.



Above Right, Two senior people on board the John Shaw during our stay were, from left, Al Rhindress, Senior Drilling Foreman, Mobil, and Jack Wilson, Assistant Drilling Superintendent, Sonat. Below, On John Shaw, rig maintenance receives constant attention.

Q Do you have any complaints about the system?

WALKER. No, none. Really, how can you complain about something that works so well? I know we'd be lost without it. That's it in a nutshell. We wouldn't be anywhere near as efficient without it. *Continued next page*

When you work a 12-hour shift, there's little time for leisure activities, but these two roommates find time to make decorative ship's wheels. On the John Shaw, there are two to a cabin, and each cabin has its own head or bathroom.



Terrence Hughes, Radio Operator, interviewed on the drilling rig Bow Drill I.

Q *It would be helpful to have some idea about the usage of satellite communications on board the Bow Drill I.*

HUGHES. On this rig, every morning we send all the PCR reports over the fax, which is transmitted via Marisat. Then we send two drilling reports, one to St. John's, one to Halifax for Husky-Bow Valley. Then, the Petrocan company man calls the office. Then the rig super and the captain call the office, and that's all over the Marisat. If our ARQ system goes down, we send all the telexes over the Marisat. That's our usual breakdown, unless there is facsimile traffic to go, like geological reports or somebody from ashore calls and says, "Contact the office via Marisat."

Q *Do you have any complaints about the system?*

HUGHES. No, none at all. It's really good. It's a good system. It makes my job a lot easier.

Brian Garner, BG Electronics (electronics service company), interviewed on the drilling rig Bow Drill I.

Q *How is satellite communications used by rigs on the Grand Banks?*

GARNER. Currently, all the drilling reports are sent via the satellite link. They can be sent either in the computer form as Husky-Bow Valley does or in the fax form, which Mobil and Petro Canada do. Basically these reports are the status of operations for the last 24 hours and the forecast for the next four to six hours. Other types of transmissions are used for the logging operation.

When the well is being evaluated, certain companies do what we call logging. This is interfaced directly to the Marisat. The logging computer on board handshakes with another computer on shore, and the information is transferred directly to the computer for analysis. Schlumberger does this when they are doing their tests. They have direct access to the Marisat on the four-wire system. It's computer to computer transfer of data.

Q *Can you think of any examples where the presence of satellite communications saves money?*

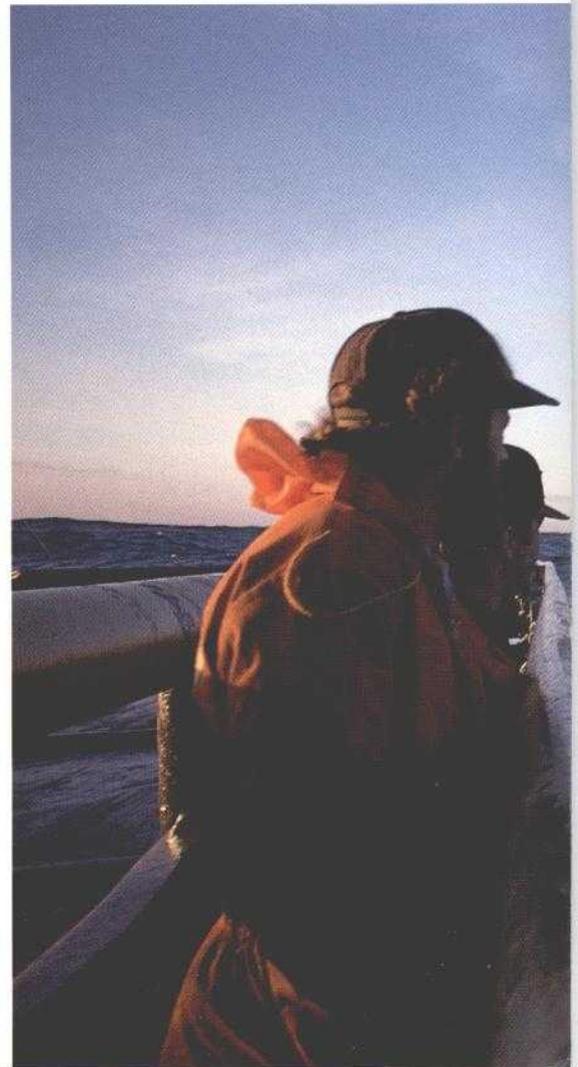
GARNER. Logging. It's direct data transfer. It allows us to transmit data directly ashore, instead of having to record the data on tape and then flying tapes across the country. We can transfer the data via the Marisat system and evaluate them much more quickly. The reason we need the data evaluated quickly is because until the logging is evaluated and completed, the next step in the drilling opera-

tion cannot be initiated. Therefore, it's critical that the logs be evaluated as quickly as possible so that the drilling program can get on. Remember, these operations are costing between \$175,000 and \$225,000 a day.

Garry Stephens, Bos'n, interviewed on the drilling rig John Shaw.

Q *Does the presence of satellite communications on board this rig have any effect on you?*

STEPHENS. Well, it most certainly does. It's pretty damn good to be able to pick up a telephone and dial home the same as dialing across the street. I've been on ships for enough years now and used the old ship-to-shore telephone and the old ham sets trying to talk home. All you get is static or you're in the wrong time of day or you're on the wrong side of the world, or the wrong this or the wrong that, or somebody is between you and home and he has a more powerful set and he's blocking you out because you're both trying to get on the same frequency. It's just unbelievable. The medical factor is the big deal with Marisat, because now we know that if we get badly injured out here, a doctor—a fully certified surgeon—is only a telephone call away. We have very highly regarded medical facilities on board. I think I speak for



most of the crew when I say that both medics on board this rig we feel very comfortable with. We know that they're only looking out for our health. We know that they will help us the best that they can, and we know that they can follow instructions. And the Marisat runs all the way to the hospital. If you're very sick, you know that the medic is talking to somebody on the beach that's getting read-outs and everything else that can help you right then and there, until they can get a helicopter coming out to you. We know that if there's a helicopter coming out that there will be a doctor on it. We know that the doctor will be prepared for what we have.

We know that we don't have to worry about the sea conditions or the state of the weather, as long as the Marisat is coming through. That's the clear call. That's our lifeline right now. We know that if we have to send a mayday, we don't have to just depend on Mobil picking up an S.O.S. from an emergency radio. See, it's one of the safest things ever brought out as far as rig safety is concerned. It's just a "dynamite" utensil for safety. Now we hear that we're going to get ship to shore television via Marisat. If you're injured and in our hospital, the doctor can stand at a screen on shore and look at you and see for himself what's wrong and then tell our medic what to do.

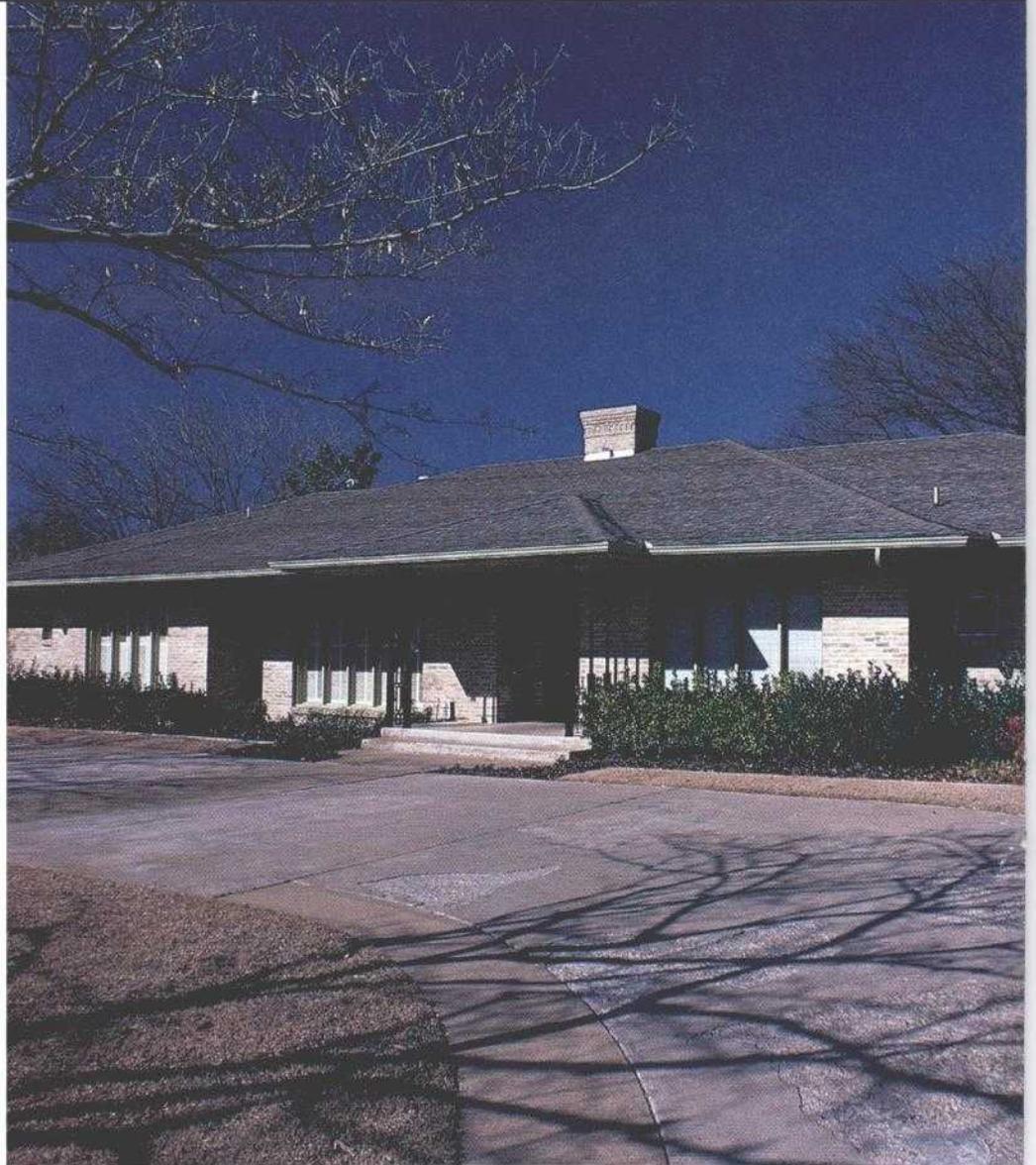


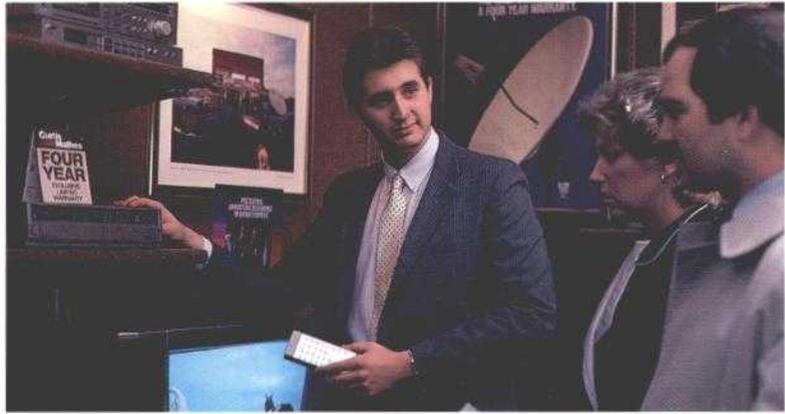
Above, In the ballast control room, crewman on duty constantly monitors the rig's stability and makes adjustments if necessary. **Below,** The John Shaw as seen from a supply ship. At least one such ship is always on station with a drilling rig.



CURTIS MATHES

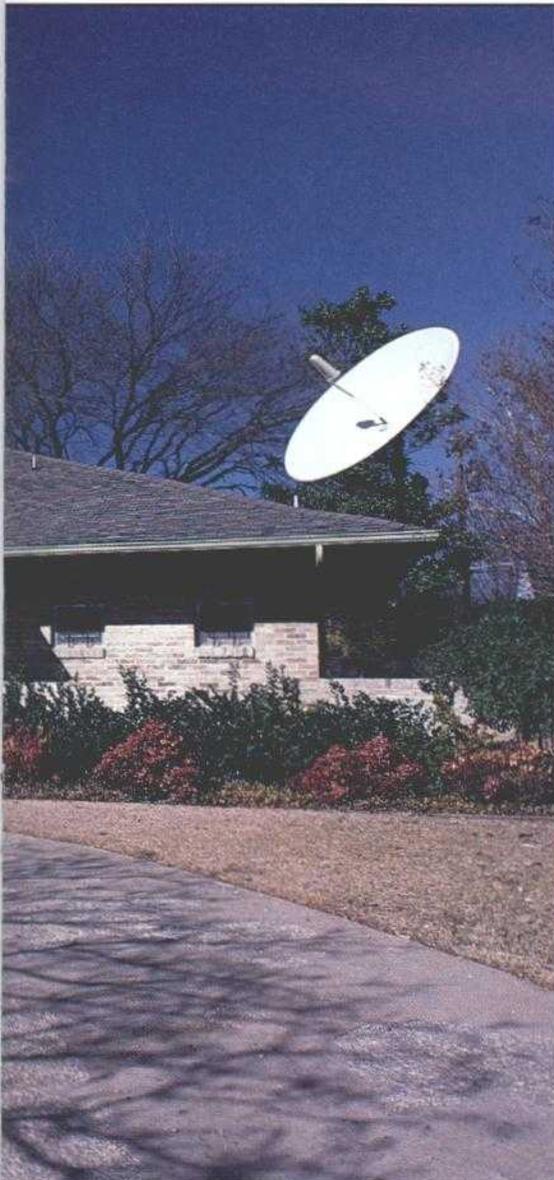
Curtis Mathes home satellite television antenna on a house in a suburb outside of Dallas, Texas. Curtis Mathes, a leading home entertainment retailer with almost 700 stores nationwide, has become a major factor in the retail market for home satellite television systems.





Curtis Mathes salesman Chris Mann explains the components of the Curtis Mathes home satellite television system. Mann has a hand on the receiver and holds the remote control.

AND HOME SATELLITE TELEVISION



Nationwide home entertainment retailer enters the home satellite television business. Supplying its home satellite television product is Amplica, Inc., a Comsat Technology Products company.

Recently, Curtis Mathes, one of the nation's leading home entertainment retailers, produced a pleasant surprise in the fledgling home satellite television industry. It signed an agreement with Amplica, Inc., of Newbury Park, California, naming the southern California manufacturer of defense, commercial and consumer microwave electronic equipment as its exclusive supplier of home satellite television systems. The agreement marked the first entry of a nationally recognized retail brand name into the home satellite television business. The pleasantness of the surprise was in part prompted by the standing of the retailer. The Curtis Mathes organization, which consists of almost 700 stores nationwide—most of them franchises—and which uses its own name on the products it sells, has a reputation for excellence unparalleled in the home entertainment industry.

What brought Curtis Mathes into the home satellite television business and, specifically, to Amplica, a part of Comsat Technology Products, Inc. (CTP), Comsat's products manufacturing group? In an interview with C. Douglas Carter, Curtis Mathes' Vice President of Marketing, at Curtis Mathes headquarters in the Dallas suburb of Irving, we found out. In addition, we gained insight into Curtis Mathes' unusual retailing system, a system that espouses the principles of customer service, high quality products and reliability and makes them the core of a highly appealing franchised program.

"The company has a long history," Carter tells us, describing the beginnings of the family owned private corporation whose founder was

C. Douglas Carter is
Vice President, Marketing,
Curtis Mathes.



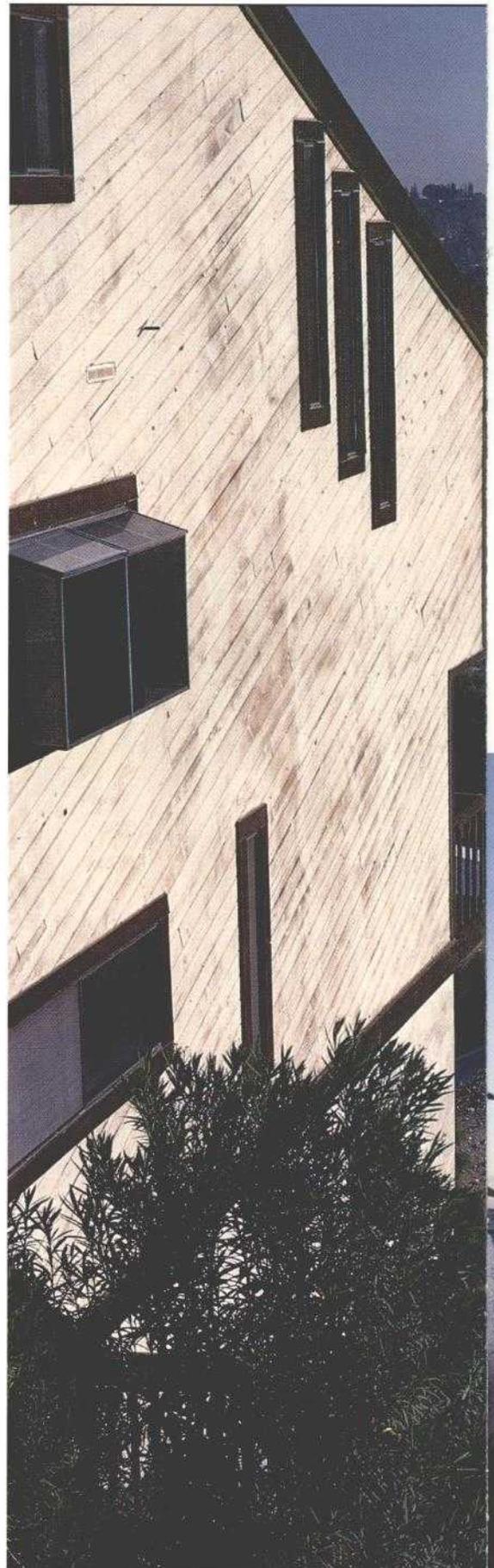
by **Stephen A. Saft**, Editor,
Comsat Magazine.
Photography by **William J. Megna**,
Chief Photographer.

a man named—not coincidentally—Curtis Mathes. “You can trace the roots of the company back to Amarillo, Texas. It was a Philco radio distributor. At one point, it was in air conditioning—in the very early days of air conditioning. That business was sold, and the company entered the furniture retailing business in Fort Worth. A manufacturing facility was purchased in Athens, Texas. The company began building console stereos with very fine furniture cabinets. The television boom had started in the 1950s, and in the 1960s color television came along. Curtis Mathes took color television, combined it with console stereo and large, beautiful, all-wood cabinets and created something that no one else in the industry had.

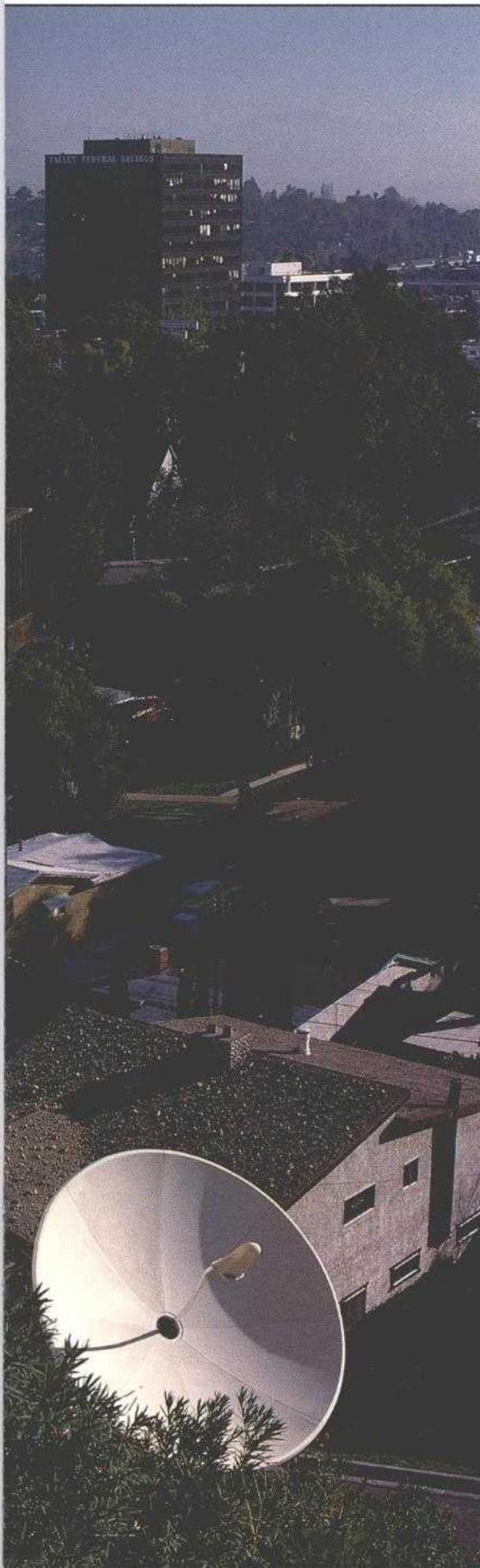
“In the early 1970s we came up with the concept of extended warranty protection, and we communicated that through television advertising,” Carter continues. “We found that our kind of extended warranty protection appealed to a wide variety of people. We call it ‘our confidence strategy.’ In effect, we promise the customer that he’s not going to have any problems with our product. We say, ‘If a customer has a problem, he doesn’t have a problem. He has a Curtis Mathes.’ We take care of that customer, and that’s the concept the business was built on: Offering a product that has a high level of reliability, offering a product that we stand behind with a four-year warranty. Behind that warranty is a total system that supports the customers, that trains the franchisee—the retailer—by giving him or her the tools necessary to take care of the customer properly and profitably.

“The whole program was a vision of Curtis Mathes, Jr., who died, unfortunately, in an aircraft accident about a year and a half ago,” Carter adds. “This vision can be summarized quite easily: ‘serving customers better.’ His whole commitment was to developing ways to take care of customers better. A lot of people say that they do that. At Curtis Mathes, we practice a whole program that is committed to doing that.

“To support that program, Curtis Mathes, Jr., developed a distribution system unique in our industry,” Carter notes, “one that paid attention not just to the product that is being sold, but to the system for delivering the product as well. And so there is focus on products with a high level of reliability. There is a focus on training—training in service, training in sales, training in business management.”



Home satellite television antenna next to a house in the suburbs outside of Los Angeles, California.



Above, Curtis Mathes home satellite television installer prepares to mount actuator arm as he steadies antenna dish. Actuator assembly automatically positions dish to correct satellite.

Below, Curtis Mathes's Carter.

Now the successful Curtis Mathes approach is being applied to a whole new product category, home satellite television. Having already achieved so much success with its existing product lines—color television, videocassette recorders, stereo sound systems, projection televisions, and video cameras—why did Curtis Mathes feel motivated to take on this new product type? we asked. "A lot of our franchisees had been prompting us for over a year to look at the market because they had seen an opportunity," Carter responds. "When we looked at what was already going on, we saw a cottage industry made up of garage shops in which systems were receiving a host of custom fabrication, some of it shoddy. We saw an industry in which misinformation was running rampant. I was reminded of the early days of audio when people who thought they knew what they were talking about were referring to '400 horsepower amplifiers.'

"We looked at the business, and we said, 'Curtis Mathes can perform a vital service here.' Curtis Mathes has a distinct advantage whenever a product requires good product knowledge—that is, careful explanations of how something works along with demonstrations—and when the product requires delivery and set up, all functions that the mass merchant typically can't do. We said, 'We really have an advantage with this product. We have the people who know how to deal with customers, who have the product knowledge, and who have the kind of service that this product requires.' We said, 'This product ideally fits the Curtis Mathes system.'

"In this business, instead of talking about high-power amplifiers," Carter notes, "we're talking about LNAs (low-noise amplifiers) with 85, 100 and 120 degrees K. There's a huge potential for the consumer to be misinformed, and we felt—and we still feel—a tremendous opportunity to educate the consumer, to provide a real service, to evaporate some of the myths in the business."

A business crying out for the kind of service that Curtis Mathes can give was not the only motive, Carter reveals. The company





Friends enjoy home satellite television on a ranch near Santa Barbara, California. Note three principal elements of Curtis Mathes system: The antenna, through window, right; receiver, on top of TV; and hand-held remote control.

looked at the market potential and also liked what it saw. "Home satellite television is at about 1 percent of market saturation, with over a million units sold," Carter says, "and we believe that retailers are going to sell another million units this year. But the business is like the audio business in that I don't think anyone has any kind of a handle on just how big the market is. What we can say is that it is very, very big. Let's just take a look at the situation for color television sets. In a market that already has 98 percent market saturation, retailers sold 16 million sets in the United States last year, and we think that we're going to sell another 16 million sets this year. The excitement of an item like home satellite television in a marketplace like this is that it is so new. It's in the position that the video-cassette recorder was in 1977. That year retailers sold about 100,000 VCRs. This year we'll sell over 7 million VCRs.

"Nor do I think that the market for home satellite television is just limited to people who can't receive normal television broadcast signals," Carter is quick to add. "Our experience right here in the Dallas area shows that that is not true. At the moment, it is somewhat of an upscale market, unless you're not receiving an adequate signal, in which case you're going to tend to look upon the product as a necessity regardless of where you are financially. Right now, we're selling systems to people whose motives seem to run the gamut: Some are dissatisfied with their over-the-air reception. Some are dissatisfied with the service or the reception they're receiving from their local cable company. Some are excited about the whole idea of receiving television signals from space. Some are sold because of the great variety of programming available. Some are excited by it simply because it's new.

"The only restriction I see on market growth is the size of the dish antenna," Carter adds. "As we can make that dish come down in size, we should see a very substantial increase in the market."

Convinced that the market for home satellite television had considerable promise, Curtis Mathes then set forth to find a supplier. What led Curtis Mathes to select **Amplica**? we wanted to know. "**Comsat**, to be quite frank," Carter responds. "I first came across **Amplica** at a consumer electronics show a year ago, and I noticed the subhead under the company name—a **Comsat** subsidiary," Carter states. "We said to ourselves, 'If anybody ought to know about this business, **Comsat** should.' I picked up a phone one day and called **Amplica** and asked them if they'd be interested in discussing this business and the opportunities in that business. That's how it all started."

As Carter sees it, the arrangement with **Amplica** is really a two-way street. **Amplica** provides Curtis Mathes with a complete home satellite television system including dish antenna, antenna mount, actuator arm for automatic dish aiming, microwave electronics consisting of low noise amplifier and down converter, and the inside components consisting of receiver and hand-held remote control. "**Amplica** provides us the guidance as to where the technology is going, and through **Comsat** it is in a position to lead and direct that technology. Curtis Mathes, on the other hand, understands the dynamics of the marketplace. We know what the consumer wants. We're in a position to know what is acceptable or appealing to the consumer and what is not. We can provide that kind of feedback to **Amplica**."

In the near-term, the single greatest need that the Curtis Mathes organization has from **Amplica** is not any particular piece of hardware but knowledge. Indeed, Carter acknowledges that home satellite television, as a product line, has shown itself to be far more complicated than any of the organization's other lines. Thus, an organization like Curtis Mathes that puts such an emphasis on the importance of training finds itself especially challenged.

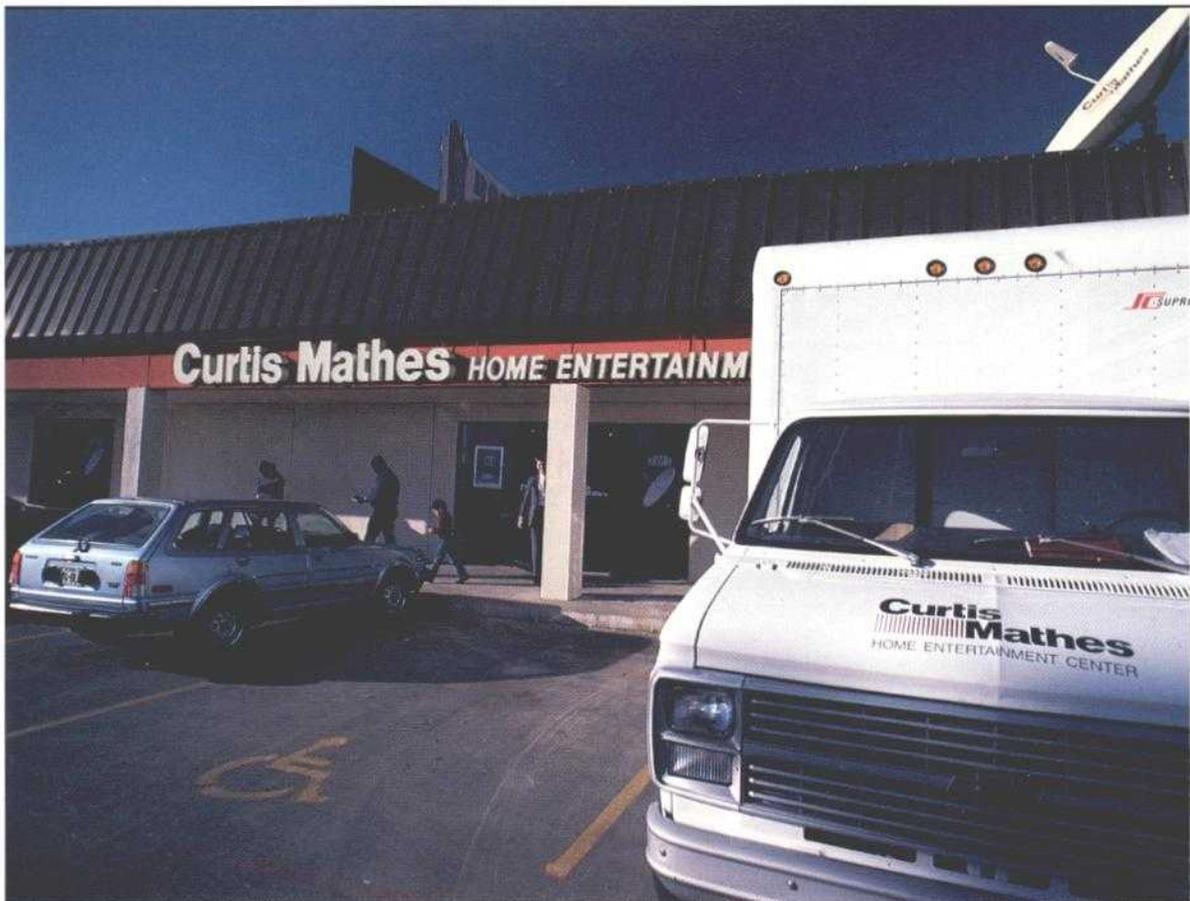
"In the satellite business, you just don't make a product available and ship it out with an instruction manual to your stores and

expect everyone to be in the home satellite television business," Carter states. "We have developed video training tapes to educate our people, and right now we are developing even more training tapes. Our people know all there is to know about color television, VCRs and audio systems. Now they have to answer all the questions for a whole new industry. We're talking about uplinks and downlinks, the fact that up there in space 22,300 miles from here there's something that you have to point your antenna at, etcetera, etcetera, etcetera.

"All these things were Greek to us nine months ago," Carter continues. "We know a lot more today, and we need to know even more and to get all that information into our system so that we can continue to accelerate our comfort level with the product. When we

achieve that, we breed confidence in our entire system. Once people have that kind of confidence, suddenly we see enthusiasm, suddenly we see commitment, suddenly we see belief that our product is the best.

"When our people have this kind of attitude and are able to clearly present all the advantages of our system—which may well cost significantly more than a system a neighbor bought who lives down the street—then they've probably transferred that enthusiasm to the customer. They've made that customer feel confident. You have a loyal customer who will keep on coming back to Curtis Mathes. That's the Curtis Mathes program. It's working so well with all our other product lines, and it will work just as well with home satellite television. I'm sure of that."



*Curtis Mathes's Forest Lane store in Dallas, Texas.
Note the home satellite television antenna on top of store.*

AMPLICA

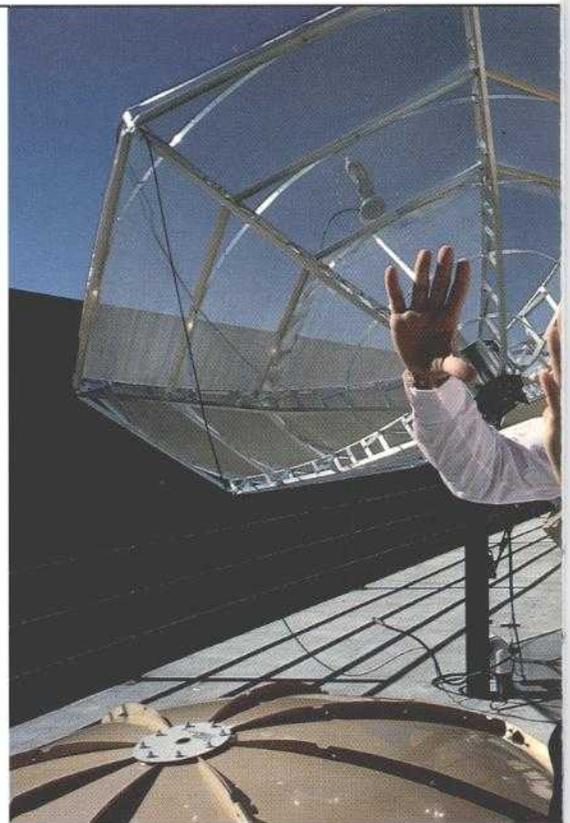
AND HOME SATELLITE TELEVISION



William E. Wilson is President of Amplica, Inc., located in Newbury Park, California, about 40 miles north of Los Angeles.

On the same trip in which we visited Curtis Mathes headquarters and some of its stores in the Dallas area, we also went to the headquarters of Amplica, Inc., about 40 miles north of Los Angeles in a community called Newbury Park. At **Amplica**, we toured the facilities where low noise amplifiers and down converters are manufactured and where these two and all the other components that make up the Amplica satellite home television system are rigorously checked and tested, both individually and together as whole systems, and boxed ready for shipment.

While at **Amplica**, we had an opportunity to talk with several people who are playing a crucial role in the company's aggressive development of its home satellite television business. We are pleased to present the views of three people at **Amplica** involved with this business: William E. Wilson, President; David Lee, Vice President, Telecommunication Products Division; and Asa Baird, Director, Marketing & Sales, Telecommunication Products Division.

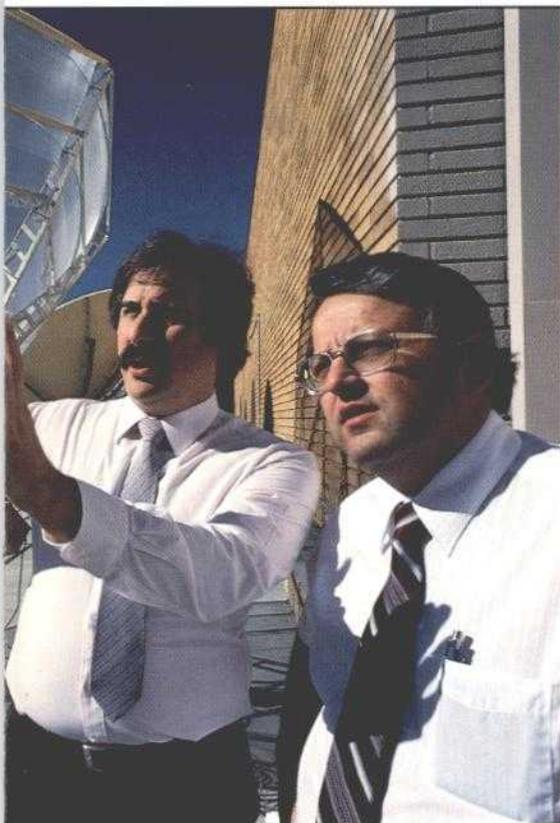


Two of the principal people at Amplica, Inc., Newbury Park, California, responsible for the success of Amplica's home satellite television product

William E. Wilson:

The satellite television industry has grown dramatically over the past several years with an installed base at the end of 1984 of approximately one million systems. We expect more than half a million systems to be sold in 1985 with a retail value of well over one billion dollars. The congressional resolutions passed in late 1984, which underscore the legality of private use of unscrambled satellite signals, add further impetus to the industry's expansion.

As the industry has grown, Amplica has evolved from a leading manufacturer of the system's key technological component—the low noise amplifier—to a full service supplier of satellite television systems. Curtis Mathes provides an excellent example of what I mean by full service. Here we contribute not only a state-of-the-art consumer product, but also considerable training and technical sup-



line: from left, Asa Baird, Director, Telecommunication Productions Division; and Robert Pizzi, Applications Engineer.

port at both the corporate and dealer level, which we believe both differentiates us from our competitors and provides value added.

Capitalizing on our Comsat name, Amplica-Comsat—as we tend to view ourselves—is ideally postured through total Corporate technology access with a top-of-the-line electronics products, a strong consumer oriented marketing organization, and an excellent system image. 1985 should show a significant return on our previous investments in this business.

David Lee:

Since its establishment in 1980, the Telecommunication Products Division has experienced tremendous growth, primarily due to participation in the TVRO industry. Revenue has increased twelvefold, while personnel increased eightfold, and our product offering expanded from a single component to encompass a full broad-based product line of systems components and systems.

While system price has declined from \$35,000 to \$3,000 in the short span of five years, the TVRO equipment has evolved from being a hobbyist's adaptation of commercial instruments to something that is an indispensable part of home audio-video equipment. Today, the user can simply call up the satellite and transponder from a handheld remote controller; the antenna automatically moves to the programmed direction and the picture appears on the TV screen, sometimes even accompanied by Dolby matrix stereo!

We began in 1983 to establish relationships with certain judiciously chosen off-shore manufacturers. This enabled us to achieve tremendous leverage on our microwave and system design capabilities. Working with these low cost producers, we can profitably provide the end users with quality products at competitive prices.

Asa Baird:

One point that has to be stressed is that the future of the home satellite television business belongs to the systems supplier, that is, the supplier of a complete home satellite television system. Sears, for example, sells the consumer a complete refrigerator. The consumer in the market for a new refrigerator does not go to one supplier for a compressor, to another for a refrigerator box, and to still a third for the freezer compartment and then put the parts

David Lee is Vice President, Telecommunication Products Division, Amplica, Inc.



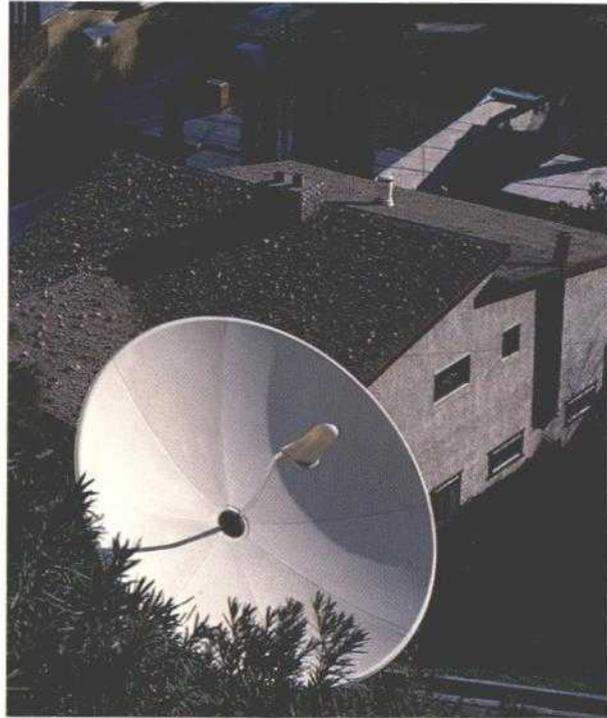


Curtis Mathes home satellite television antenna on a ranch near Santa Barbara, California. Hills in the background are part of President Ronald Reagan's Santa Barbara ranch.

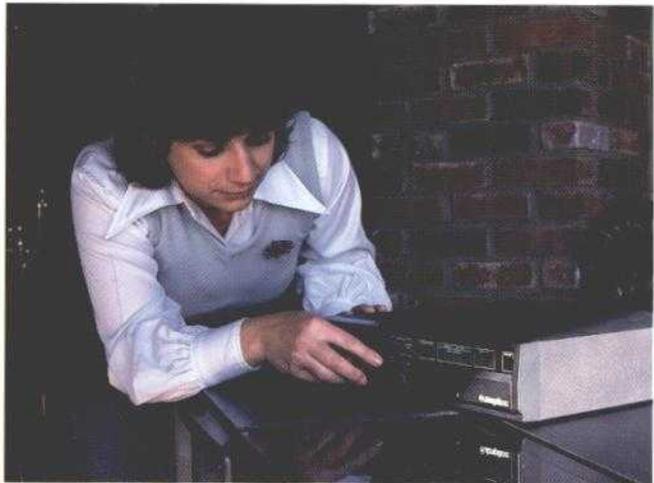
together himself in his own home. You see another example of what I mean in the audio industry. The audio industry did not start to achieve peak sales until companies offering complete systems such as Fisher and Sanyo got into the business.

The advantage that **Amplica-Comsat** has is that we've taken the steps to make ourselves a total systems supplier. The other advantage that we have is that we understand that the home satellite television business—because of its complexity—will always require personal service. The individual components in a system have to be highly reliable. The whole system has to be user friendly. The whole system has to look like, act like and be like any other version of consumer electronics. Because of the complexity of these systems, however, making them one hundred percent friendly is not an easy task.

A lot of companies can make dish antennas. A lot of companies can make feeds. A lot of companies can make receivers. Putting all of these things together in a manner that results in a system that is easy to install, easy to operate and makes sense to the user is the difficult procedure. That's where the art comes in. Doing things the way they were done in the early days of audio—say, one company makes the low noise amplifier, another company, the down converter—just won't wash in this industry because the tolerances are so tight from one component to the other. The consumer can spend another \$50 or \$100 supposedly upgrading the low noise amplifier in his system from a noise temperature of 100 degrees K to 70 degrees K, only to find out that there is no improvement because his feed may no longer match his low noise amplifier. Or you can have a dish that doesn't quite match the feed.



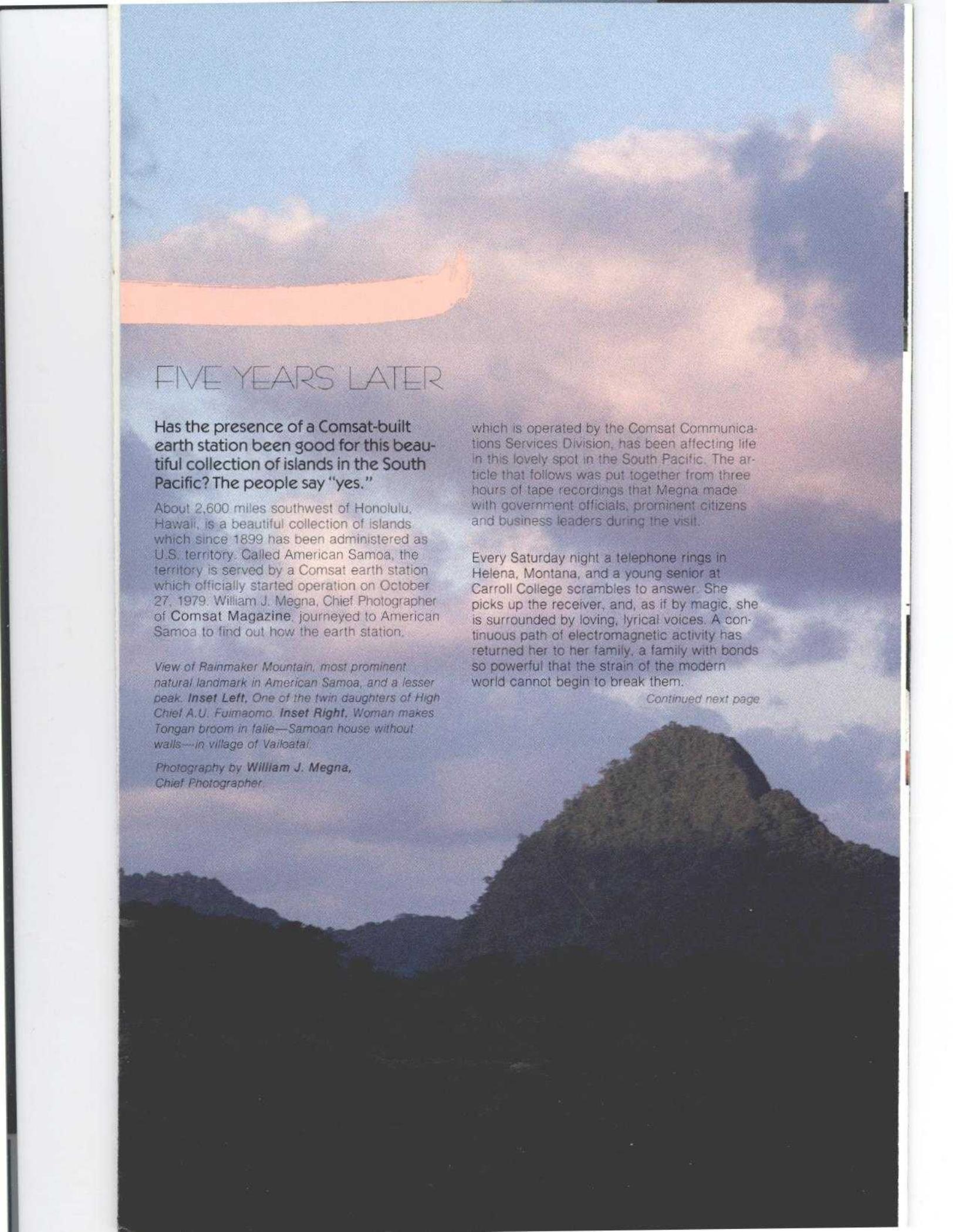
Amplica-Comsat has the expertise to design the best system, and we've taken the steps to make certain that all the components of our systems are the very best. Just as important, we are now thoroughly experienced in customer service. Many people ask me, "Why won't the Japanese just take over this business as they have taken over so much of consumer electronics in general?" The answer is that they do not have the service orientation that we have, and that is absolutely essential for success in this business. Ultimately, what we will provide for ourselves and for the retailers handling our system is profit. How will we do that? By making certain that what the customer receives from the retailer is a system that works—and works every time.



Closeup of Amplica home satellite television receiver.

AMERICAN
Samoa





FIVE YEARS LATER

Has the presence of a Comsat-built earth station been good for this beautiful collection of islands in the South Pacific? The people say "yes."

About 2,600 miles southwest of Honolulu, Hawaii, is a beautiful collection of islands which since 1899 has been administered as U.S. territory. Called American Samoa, the territory is served by a Comsat earth station which officially started operation on October 27, 1979. William J. Megna, Chief Photographer of *Comsat Magazine*, journeyed to American Samoa to find out how the earth station,

View of Rainmaker Mountain, most prominent natural landmark in American Samoa, and a lesser peak. Inset Left, One of the twin daughters of High Chief A.U. Fuimaono. Inset Right, Woman makes Tongan broom in fale—Samoa house without walls—in village of Vailoatai.

Photography by William J. Megna, Chief Photographer.

which is operated by the Comsat Communications Services Division, has been affecting life in this lovely spot in the South Pacific. The article that follows was put together from three hours of tape recordings that Megna made with government officials, prominent citizens and business leaders during the visit.

Every Saturday night a telephone rings in Helena, Montana, and a young senior at Carroll College scrambles to answer. She picks up the receiver, and, as if by magic, she is surrounded by loving, lyrical voices. A continuous path of electromagnetic activity has returned her to her family, a family with bonds so powerful that the strain of the modern world cannot begin to break them.

Continued next page

Below Left, Former Governor of American Samoa Peter Tali Coleman shows off facsimile machine used for communications via satellite with the American Samoa office in Washington, D.C. **Below Right,** Falele or American Samoan house without walls in the village of Aoloaui.



On the other end of the connection is the family of High Chief A.U. Fuimaomo of American Samoa. Fifteen family members are gathered around two telephones. They chat happily with A.U. Fuimaomo's daughter, who is attending college "on the mainland," as the continental United States is termed by Samoans. They exchange the latest news, listen to problems, offer advice and share the warmth of family with someone nearly 6,000 miles away.

One facility is most notable for making this scene possible, along with hundreds like it: the Comsat Earth Station at Tafuna, American Samoa, which officially opened for business on October 27, 1979. When the 13-meter antenna began receiving and transmitting telephone signals via an Intelsat satellite, it was a major step toward removing the eerie sense of isolation that was felt by many American Samoans. It was an isolation that not only inhibited economic growth in the territory, but played havoc with the centuries-old tradition of *aiga* (pronounced ah-eeen-ga), the Samoan word for "family."

"We believe in family life," Fuimaomo explains. "That doesn't stop at just the husband and wife and children. It's the extended family—uncles, aunts, brothers, sisters; second, third, fourth, fifth cousins; in-laws—it's all family. At the last reunion of my extended family there were 3,842 of us."

The head of each family is the *matai*, or chief, a designation that is passed down from generation to generation. Fuimaomo is the High Chief, the liaison between the government of American Samoa and the people. He settles disputes over land or other matters and meets with all parties involved to see if a problem can be resolved without going to court. Fuimaomo like other chiefs is responsible for the well-being of his *aiga* and provides spiritual guidance.

Fuimaomo sees the advent of satellite communications as a chance to maintain the bonds of family even during physical separation. This has become of even greater importance in recent years since there are now 68,000 American Samoans on the mainland, more than twice the 33,000 individuals who populate the collection of Pacific islands that comprise American Samoa.

"It takes three weeks to get a letter to my children in Montana," Fuimaomo says. "Three weeks! What we have now is the absolute best for our extended families. The telephone gives me a chance to listen to their voices and for them to listen to my voice."

Samoans encourage their youth to finish high school in American Samoa and then go off to the U.S. mainland for college. Many of these students return to Samoa with the strains of *Pomp and Circumstance* still echoing in their ears. They return as doctors, pharmacists, lawyers and business people, ready to use their education to assist in the economic development of American Samoa.

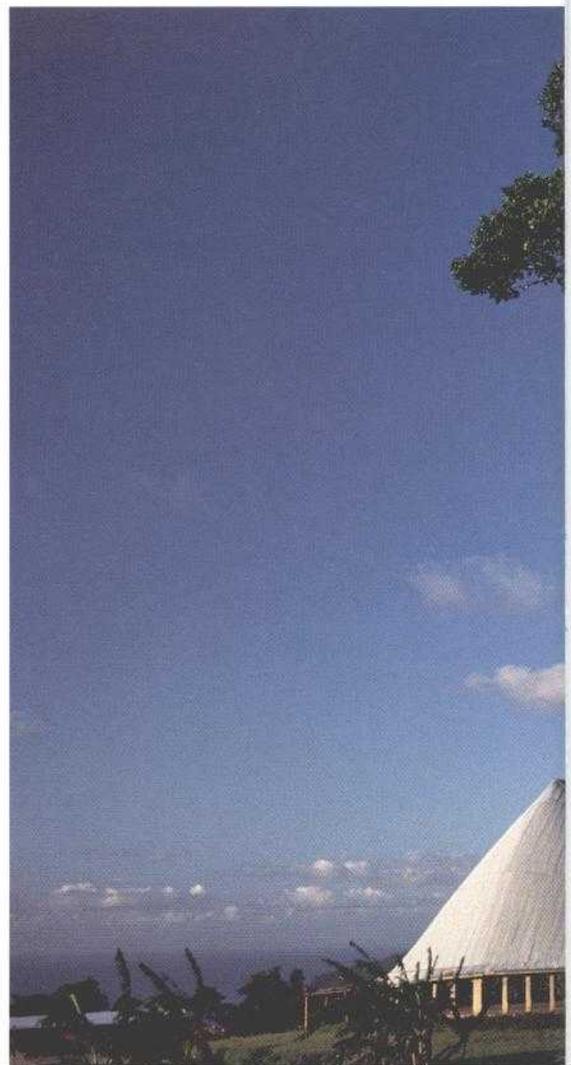
To appreciate the opportunities created by Comsat's services at Tafuna, a comparison to the days of antiquated radio communications is in order. Before the antenna was placed on a 100-square-foot plot on this Pacific oasis, the only way to communicate with the mainland or other islands was high frequency (HF) radio. Three HF circuits were available, but they created more problems than they solved. HF frequencies vary depending on the atmospheric condition and the time of day. Frequencies must be changed continually to maintain contact. If a rain storm hit during the communication, conversation was almost impossible. Considering that American Samoa receives an average yearly rainfall of 200 inches, the chance of something going wrong was considerable.

Telex communication was possible on a clear day when the circuits were behaving. Voice communication was a mixture of shouting back and forth and waiting for the echoes to subside.

Mark Reid is Night Operations Manager for Samoa Packing Company, a division of Ralston-Purina. He states the value of pre-Comsat telephone communications in a smooth New Zealand accent.

"You didn't bother to make a phone call before," he says. "It wasn't worth it."

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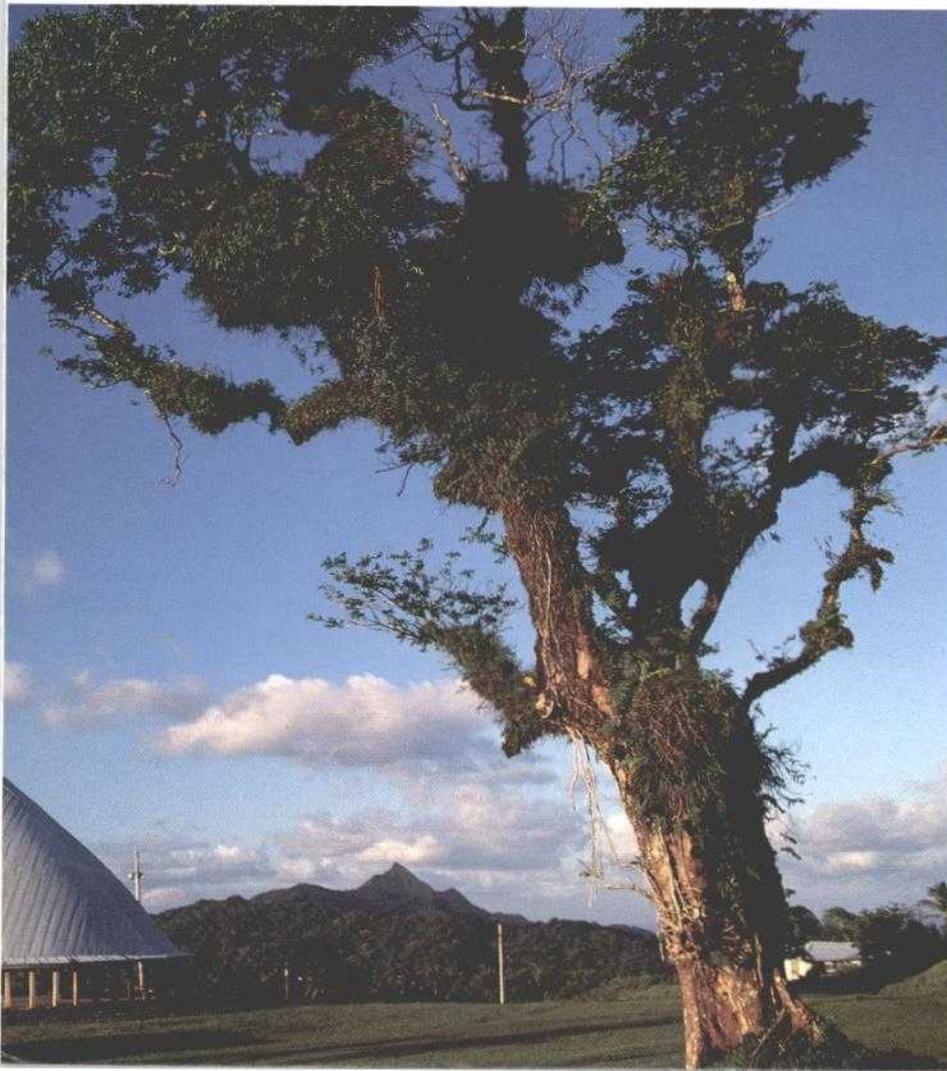
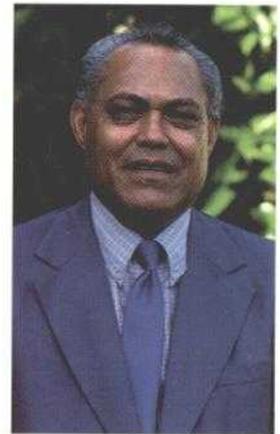
Wood carving hanging at Bank of Hawaii branch office, Fagatogo, depicts meeting of American Samoan chiefs.

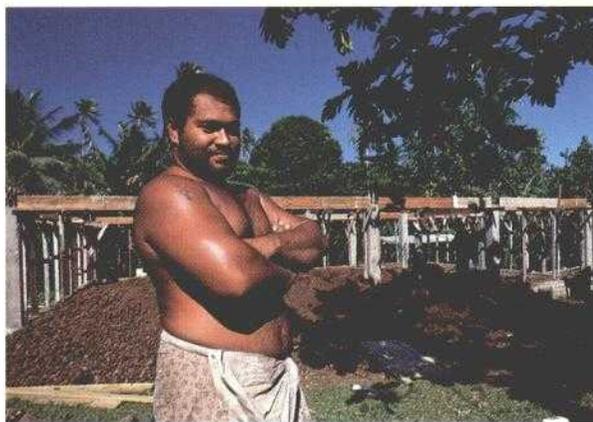


Taro patch under cultivation. Taro, an edible root, is the basic food staple in American Samoa.



It's a common ritual for the family of High Chief A.U. Fuimaomo—to gather around the telephones and talk to loved ones far away. That's High Chief Fuimaomo on the telephone, right, and also in the separate photo, *Below Right*.





Top, Tuna seining in South Pacific has been booming activity of late, and periodically harbor at Pago Pago is filled with seiners. Note: Inmarsat radome, center, is on ship in background. Bottom, Loto Mauga, technician at Comsat earth station at Tafuna, with house he is building near village of Vaitogi.



Sene has been in charge of Samoan communications for more than 20 years. He has suffered through the high-frequency radio days when there would be outages of up to eight hours at a time on the three circuits. Now he presides over a communications system with 192 telephone circuits, a system that can provide instant voice and data communications to almost anywhere in the world.

"Before the earth station, I couldn't sleep at night," Sene recalls. "People were always bothering me to place their phone calls. That was my biggest problem. Now, no one calls me at night."

Although allowing the *aiga* system to continue unabated over distances of thousands of miles is a major benefit, satellite communications also plays a dominant role in the economic and political development of the Pacific region. The vast expanses of the Pacific made communication and travel problematic in the past. American Samoa is over two thousand miles away from Hawaii and about the same distance from New Zealand to the southwest and the Marshall Islands to the northwest. Many islands make up the Pacific region, including Western Samoa, Tahiti, New Caledonia, the Cook Islands, Micronesia and Guam. Each has a major stake in the future of the Pacific, but the distance and sense of isolation made communication and cooperation difficult.

"Satellite communications is pulling the islands together," says former-Governor Coleman. "It is also removing from us the feeling that we're way out in the left field of the planet and that nobody knows where we are or thinks of us."

Much of the development will come about by making the most of American Samoa's assets. The natural harbor of Pago Pago is considered one of the finest in the Pacific. Two tuna canneries have already sprouted along the sides of the harbor, just beneath the stern presence of Rainmaker Mountain. At the canneries, Samoan workers unload tuna from the fleet vessels. The fish is then frozen, packed in cans and shipped out, ready for the supermarkets on the mainland. Currently, about 30 percent of the tuna purchased in the United States is packed in Samoa, and the Ralston-Purina packing plant is undergoing expansion.

Ralston-Purina's divisional headquarters is in San Diego, with corporate offices in St. Louis. Now, Mark Reid and others can contact the home offices by telephone, telex or facsimile.

"If there's a question from here or there that needs an answer straightaway, then fine," says Reid. "They get it. The limitations that used to be here just don't exist anymore."

Continued next page

Above, Mark Reid is Night Operations Manager for Samoa Packing Company, a division of Ralston-Purina. Below, Aleki Sene, Director, American Samoa Office of Communications, with new digital telephone exchange at Fagatogo.



But the communications gap closed in 1979, when the earth station began receiving the whispers from space and instantaneously transforming them into everyday conversation. A telephone system was installed, connecting the tuna canneries in Pago Pago (pronounced Pahn-go Pahn-go) harbor with their division headquarters on the mainland. It also linked the government in Fagatogo with other governments in the Pacific Region, as well as with the federal government in Washington, D.C., nearly 8,000 miles away.

One of the people primarily responsible for bringing American Samoa into the world of modern communications is Aleki Sene, Director of the Office of Communications. Sene and Peter Tali Coleman, the first elected governor of American Samoa, traveled to Washington to lobby personally for bringing satellite service to the islands. Sene knew that for Samoa to participate in the modern world, communications was essential.

"If you don't communicate with people, how can you develop and improve relationships?" Sene asks.

Above, Comsat earth station at Tafuna, American Samoa. Below, The waves at Shark and Turtle Bay, near the village of Vaitogi, American Samoa.

Local merchants have benefitted from the advent of instant communications as well. Bill Larson is part-owner of The Tool Shop, a hardware store in Pago Pago.

"Two or three times a week we call our suppliers in the States," says Larson, "One supplier even put in a service for us so we can call collect. The satellite system is the best thing that ever happened to us. We're able to conduct a lot more business, more efficiently and cheaply."

Even banking has prospered since the installation of the Comsat earth station. Now sophisticated computer services can be used to accelerate transactions. At the American Samoa Branch of the Bank of Hawaii, raw data is transmitted to the main office in Honolulu by satellite. By the next day, printed reports are in the hands of bank personnel.

"We used to use telex for most of our high-priority transactions," says John R. Marsh, Assistant Vice President and Manager of the bank. "It was more reliable than the telephone. We used to get disconnected in the middle of a conversation. It would have been easier to write a letter. Now we have instant direct dial. We can transfer funds with a telephone call."

For all the benefits provided by satellite communications, a dissenting argument is sometimes aired. Some suggest that bringing places like American Samoa into the modern world will corrupt the ancient culture and exploit the people. Former-Governor Coleman dismisses this notion.

"In the past, this island has been so isolated from the main stream of world events," he says. "Now people are receiving more information. This does not spoil our people. It has given us a greater understanding of



different cultures and more appreciation of our own. We are now able to cope with others without hurting our own culture."

Coleman believes that satellite communications can be the greatest contributor to the success of development in the Pacific, while also contributing to the self-reliance of the American Samoans.

"We're very proud of our satellite system because we had a hand in it from the beginning," Coleman says. "We feel just as much a part of it as Comsat does. I think it's the best working relationship on the island."

Satellite communications has brought a new way of life to American Samoa, while enhancing the one that already existed. It has brought the prospect of an expanded economy, the creation of new jobs and a better relationship with the governments of other Pacific islands. Most importantly, it has eased the pain of separation for the *aiga*.

There was a time when Montana was three weeks away from American Samoa. Now, due to the services and access afforded by a 13-meter earth station and a lot of hard work, the distance has been reduced to milliseconds.

"The world is getting smaller and smaller all the time," says A.U. Fuimaomo. "That makes us closer and closer."



Continued from page 4

R.E. (Ted) Turner on announcing the agreement. "Today's technology offers us the opportunity to know each other better, fear each other less and live in peace."

Commenting on the new service, Irving Goldstein, President of **Comsat**, remarked, "**Comsat** is committed to the challenge of providing this and other new services through the Intelsat System. The Turner Broadcasting Service marks the fifth full-period television service we are providing over the Atlantic Ocean, and there are four full-period TV services going to the Pacific Ocean region."

Intelsat's Director General Richard R. Colino said he was gratified to see customers taking advantage of this new service created by **Intelsat**. "This cross-strapped transmission, which is unique to **Intelsat**, provides a video capability that is not offered by anyone else in the industry and can be extended to other countries of the world. This service reaffirms that **Intelsat** is working hard to maintain its position as the unquestioned international source of innovation in satellite communications."

Olof Lundberg is reappointed Director General of Inmarsat

Olof I. Lundberg has been reappointed for a second term as Director General of the International Maritime Satellite Organization (**Inmarsat**).

Mr. Lundberg's appointment for a further six-year period, starting 1 December 1985, was announced by the **Inmarsat** Council, comprising representatives of the major telecommunications entities participating in **Inmarsat**.

The appointment is subject to confirmation by the **Inmarsat** Parties, representing the Governments of the Organization's 43 member countries.

Mr. Lundberg has been Director General of **Inmarsat** since its creation in 1979. **Inmarsat** provides satellite communications services to the world's shipping and offshore industries. It currently operates capacity on six satellites, serving some 3,200 vessels and demand for some of its services is increasing at a rate of more than 60 percent a year.

Inmarsat is now negotiating a contract to purchase from three to nine satellites, at a value of up to \$400 million, for its second generation.

In announcing the appointment, O.J. Haga, Chairman of the **Inmarsat** Council, said that there was great satisfaction among Council members that Mr. Lundberg had made himself available for a second term. "He has played a very important role in making **Inmarsat** so remarkably successful. His effective management, his integrity and independence, and his aggressive pursuit of new services and opportunities for **Inmarsat**, are among the qualities which I believe make him ideally suited for this position," Mr. Haga said.

Mr. Lundberg was formerly with the Swedish Telecommunications Administration (STA) in various capacities and has been extensively involved in developing new telecommunication services, particularly mobile radio systems. He has been active in the work of the International Telecommunication Union and the International Maritime Organization and participated in the preparatory work that led to the formation of **Inmarsat**.

Mr. Lundberg was born in Goteborg, Sweden, and studied Electronics Engineering at Chalmers University of Technology, in Goteborg.

Officers named at Corporate and at business units levels

Edmund Bartlett III has been elected Treasurer of **Comsat**. As Treasurer, Mr. Bartlett assumes responsibility for the Corporation's financial planning and analysis, treasury operations, and risk management functions. Mr. Bartlett was, most recently, Vice President, Finance, and Treasurer of Satellite Television Corporation.

David Preiss joins **Comsat** General Corporation as Vice President, Finance, a new position, assuming responsibility for financial planning, analysis and budgeting functions. Mr. Preiss was formerly Director, Treasury Operations.

Also at **Comsat** General Corporation, Dr. Elizabeth Young is Vice President of Marketing and Business Development. Dr. Young was formerly President of the

Olof I. Lundberg has been reappointed for a second term as Director General of Inmarsat.



Public Service Satellite Consortium and, before that, Director, Telecommunications Center and Adjunct Professor at Ohio State University. Promoted to the post of Vice President, Sales, is Don W. Flora, formerly Assistant Vice President for Marketing at **Comsat General**.

Frederick L. Hofmann has been elected Executive Vice President of **Hi-Net Communications**, the partnership of Comsat General Corporation and the Holiday Inns subsidiary Hi-Net Communications, Inc., of Memphis, Tennessee. In his new position, Mr. Hofmann directs the construction of a major Ku-band television distribution system serving Holiday Inn hotels and participates in managing the partnership's business operations. While working for the partnership, he retains his status as a Comsat General employee.

Daniel F. DiFonzo has been named Vice President and Assistant Director of **Comsat Laboratories** with the responsibility of assisting the Director in running the laboratories. A longtime employee of **Comsat Laboratories**, Mr. DiFonzo was, most recently, Senior Director of Corporate Development.

The election of two officers has taken place at Comsat Technology Products (CTP), Comsat's equipment manufacturing division. Charles A. Zito is Vice President, Marketing and Development, with responsibility for CTP's corporate marketing, strategic planning and product development activities. Mr. Zito was formerly Vice President and General Manager of United Business Communications, a subsidiary of Isacomm, Inc.

Daniel F. Thomas is CTP's new Vice President, Finance, replacing Alan Korobov, who becomes Vice President, Finance, of Comsat TeleSystems, Inc., a unit of CTP. Mr. Thomas was formerly Assistant Treasurer of **Comsat**.

Two additional officer appointments have taken place at CTP's **TeleSystems**. Richard S. Rothermel becomes Vice President, Sales, with responsibility for all activities relating to the sale of **TeleSystems'** products in North America. Mr. Rothermel was, most recently, Account Executive of the Federal Systems Division of Northern Telecom. Kenneth H. Hoch is new Assistant Vice President for Marketing Services and Contracts at **TeleSystems**,

with responsibility for advertising and promotion, technical documentation and training, and domestic and international marketing analysis and planning programs. He was formerly Assistant Vice President for Contracts at **TeleSystems**.

Tele-lecture to Black colleges handled by Comsat General

Comsat General Corporation has transmitted via satellite the first in a regular series of career opportunity tele-lectures for the Black College Educational Network (BCEN) from its teleconferencing center in Washington, D.C. The tele-lecture was beamed directly to nine campuses of Historically Black Colleges and Universities. The tele-lecture is the first in a series being produced by BCEN that will bring the nation's top business executives, military leaders and government policy-makers into direct contact with students and faculty at the Black colleges. The BCEN system is based on a one-way video and two-audio hookup, utilizing Ku-band satellite capacity, allowing students to ask questions and receive answers from guest panelists that will better prepare them to compete for jobs in corporate America.

The first six months of BCEN's operations have been funded through donations and grants from numerous businesses and associations. BCEN will initially broadcast two live lectures monthly, moving to weekly telecasts as the program matures. Comsat General Corporation is making available studio, satellite transponder time and uplink facilities from Washington, D.C., during this time. Eleven member companies of the National Cable Television Association (NCTA) donated \$108,000 to defray the costs of earth station equipment and installation at the nine colleges.

BCEN was developed by the Black Entertainment Television (BET) network, the nation's first cable satellite network, providing Black-oriented programming, in conjunction with the NCTA. BET's president, Robert L. Johnson, is also president of the newly formed non-profit foundation, BCEN. Commenting on the new satellite network, Mr. Johnson said, "BCEN will help bridge the communications gap that

exists between industry and the Black colleges, so they can work together to ensure graduates of Black colleges equal access to America's private, military and corporate sectors, where they are so desperately needed. BCEN will also bring students up-to-date on where technology is taking us and how technology is changing the job marketplace."

Robert W. Kinzie, President of the Comsat Communications Services Division, of which Comsat General is part, said, "We at Comsat General are very pleased to have a major role in making the BCEN a reality. And to me it seems especially fitting that the kickoff for BCEN came during Black History Month."

Earth station is small enough to be hand carried as luggage

Comsat TeleSystems, Inc., has introduced the world's most advanced transportable satellite earth station. Small and rugged enough to be carried as luggage, the TCS-9000 Satellite Earth Station is a fully capable satellite terminal specifically designed for mobile users such as mineral exploration teams, tactical units, and emergency response teams.

Through the Inmarsat network of communications satellites, the TCS-9000 provides long-distance telephone service, telex, and data communications from anywhere in the world. The entire system weighs just 70 pounds, is packaged in two weathertight aluminum carrying cases, uses only 385 watts of power, and can be carried to any site. Designed to save transport space, it is also tough enough to be air-dropped.

Moreover, one person can unpack the TCS-9000 and have it ready to transmit and receive within 15 minutes. The collapsible antenna assembles easily and is manually aimed at the satellite. Plug-in connections for peripheral equipment complete the set-up process.

Once assembled, the system's software-driven console guides the user through menus of options, making for easy operation without the need for reference to complicated manuals.

Based on the TeleSystems MCS-9100 ship earth station—proven at sea and in

Military Standard 167 endurance testing—the TCS-9000 is built to take the punishment of constant travel: shock, vibration, and extremes of weather. Built-in fault isolation circuits and modular design make failed components easy to locate and replace.

Finally, the TCS-9000 is designed for adaptation and growth. Major equipment changes require only the addition of small memory chips. Among the custom options offered by TeleSystems are remote control and remote access equipment, a 30-minute emergency battery pack, a converter for DC power, a PABX interface, a 56-kilobit-per-second high-speed data modulator, a telephone expansion unit for up to two remote telephones, an automatic voice call initiation unit, personal computers, and an additional teleprinter interface.

Separate systems filing says that restrictions are needed

The Comsat Space Communications Division has filed extensive comments with the Federal Communications Commission (FCC) on the subject of competition to Intelsat. In its filing, Comsat stated that if the FCC approves any separate international satellite systems, it should restrict their operations in a manner that preserves the existing Intelsat global system.

The filing pointed to recent United States government statements confirming that Intelsat has been a "manifest success and has greatly advanced critical U.S. national policy interests."

Comsat noted that, in November 1984, President Reagan determined that authorization of separate systems would be in the national interest, but only if such systems were subject to criteria that would further this country's policy interests and satisfy its international obligations. Comsat said that if the FCC did not adopt policies that would accomplish the President's goal, potential for economic harm to Intelsat would be great.

"Our filing presents a practical and effective means by which the Commission can carry out the President's

intent," said Joel Alper, President, Space Communications Division.

Comsat suggested that the following restrictions be imposed on any separate systems:

- that facilities be sold or leased only to users;
- that facilities not be sold to entities seeking to provide communications services to others, either directly or through resale or shared use;
- that facilities not be connected to the public switched network;
- that minimum unit sizes and minimum lease durations be specified.

TeleSystems given TDMA contract by RCA Americom

Comsat TeleSystems, Inc., has been selected by RCA Americom to supply Time-Division Multiple-Access (TDMA) equipment for use in NASA's Program Support Communications Network (PSCN). The contract, which is valued at more than \$2 million, calls for the delivery of five TDMA terminals during 1985.

NASA's Program Support Communications Network will connect five of the Agency's locations for the purpose of voice and data communications and videoconferencing. RCA is providing earth stations for the network and has selected TeleSystems' TDMA equipment to improve the flexibility and cost-effectiveness of the satellite system.

TeleSystems' TDMA optimizes the efficient use of satellite transponders through "Transponder Hopping," a feature that increases network bandwidth by connecting users over several transponders, and "Automatic Burst Time Plan Scheduling," which allows real time network reconfiguration to cope with changing user traffic patterns. Extensive use of state-of-the-art microprocessor components and software techniques provides high reliability

and a TDMA system that is capable of establishing and, if necessary, rapidly changing network circuit interconnection.

In announcing the award, Harold J. Detlefs, TeleSystems Vice President for Systems Marketing, stated, "It is an honor to be teaming with RCA on this NASA project. RCA's choice of our TDMA terminals for the networks is a credit to the quality and engineering built into the equipment."

TeleSystems also has been selected to provide TDMA equipment to MCI for its growing transcontinental telecommunications network. TeleSystems will manufacture and install terminals in seven MCI facilities during 1985.

S.H. Mneney from Tanzania to receive Piero Fanti prize

The International Telecommunications Satellite Organization (Intelsat) and Telespazio S.p.A. have announced that S.H. Mneney, a Ph. D. candidate at the University of Dar-es Salaam, Tanzania, will receive the 1984 Piero Fanti International Prize for his paper, "Audio-visual Broadcast to Rural Areas over Narrowband Satellite Channels."

The prize of \$10,000 is awarded by Telespazio every two years for contributions that foster the development and the widespread use of satellite communications. The prize honors Piero Fanti, Telespazio's first Director General, and, at press time, was scheduled to be presented to Mr. Mneney, at the Intelsat Meeting of Signatories in Washington, D.C. in April. Mr. Mneney's paper was selected from among a large number of entries from around the world. In his paper, Mr. Mneney identifies the need for narrowband satellite channels to broadcast to rural areas, which is provided by Intelsat's Vista service, to help African countries with their economic, educational and social activities.

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Palau, Rep. of Palau
Paumalu, Hawaii
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The Communications Satellite Corporation is a shareholder-owned corporation based in Washington, D.C. Comsat provides satellite-based communications services and products to international, maritime and domestic markets, consulting services, computer-aided engineering tools, and information and environmental services. Comsat has been designated by the U.S. Government as the U.S. participant in the International Telecommunications Satellite Organization (Intelsat) and the International Maritime Satellite Organization (Inmarsat).

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Stephen Day, Vice President of Corporate Development, addresses the importance of marketing to Comsat's future.

10

Comsat Magazine's Chief Photographer spends three days on an oil rig on the Grand Banks to find out first-hand about the importance of satellite communications to man's search for oil offshore.

20

Curtis Mathes, nationwide home entertainment retailer, enters the home satellite television business. Supplying its home satellite television product is Amplica, Inc., a Comsat Technology Products company.

30

American Samoa, Five Years Later: Has the presence of a Comsat-built and operated earth station been good for this beautiful collection of islands in the South Pacific? The people say "yes."

COMSAT