DRAFT

MEMORANDUM
VIA TELECOPIER

TO: Greg Chapados

FROM: Henny Wright

RE: PSN Restriction on Separate Satellite Services

DATE: September 24, 1991

As we discussed, the White House seems to be attempting a compromise in the above-referenced matter that would satisfy the economic agencies and avoid having the decision made in the forum of the NSC Deputies Committee.

I know you realize that, to the extent that there is a legitimate security/intelligence concern, it does not make sense as a compromise to delay the lifting of the restriction. Rather, an accommodation should be worked out between Pan American Satellite (PAS) and the NSA so that NSA can continue to protect its interests. We have repeated our willingness to be helpful in this regard to anyone who would listen. This accommodation might take a year or so to put into effect, and a delay of that period in lifting the restriction would be understandable. The Intelsat coordination process will continue to provide a "case-by-case" control as needed.

Another "compromise" that is being discussed is to lift the restriction completely before a second term of the Bush Administration ends in January 1997, with an interim period of partial lifting of the restriction beginning in 1992.

As to the 1997 date, I see no reason why that action could not take place prior to Election Day in 1996, in order to protect the process.

Although I question what a five-year delay would accomplish, the nature of the interim service allowed will determine how palatable it is, and whether U.S. industry and the business community view this as a positive step of the Bush Administration. PAS does not see its business role as providing traditional, two-way public switched telephony -- i.e., MTS traffic. In fact, given PAS's type of satellite, it would not be economical to provide this on any sort of extensive basis. Luckily, I believe that this is exactly the service that the NSA types would like to keep only on Intelsat satellites. (Of course, message traffic is carried on fiber optic cables on an unrestricted basis.)

PAS, and its customers, are interested in being able to provide competitive satellite service for private line data and voice that can connect to the PSN at one end or the other, thus allowing for dial-up services such as Compuserve, airline reservations, etc. Thus, the nature of the interim restriction on separate satellites would shift from its current focus on connection to the PSN, to one restricting traditional PSN service.

Regarding the timing of any interim solution, the FCC should be instructed to proceed immediately with the rulemaking for which PAS and scores of others petitioned well over a year ago, so that any interim modification of the restriction would go into effect in 1992.

As a final reminder, the United States is the only country in the world to impose this restriction unilaterally.

I think Senator Stevens, with his telecommunications and defense background, can play a vital role in working out a solution that will provide the most public benefit. I appreciate your help.

GOLDBERG & SPECTOR

MEMORANDUM
FOR TELECOPIER

TO: Greg Chagaris

FROM: Manny Wright

RE: PAS Restriction on Separate Satellite Services

DATE: September 24, 1991

As we discussed, the White House seems to be attempting a compromise in the above-referenced matter that would satisfy the economic agencies and avoid having the decision made in the form of the PRC Deputies Committee.

I know you realize that, to the extent that there is a legitimate security/intelligence concern, it does not make sense to a compromise to delay the lifting of the restriction. Rather, an accomodation should be worked out between Pan American Satellite (PAS) and the NSA so that NSA can continue to protect its interests. We have repeated our willingness to be helpful in this regard to anyone who would listen. I have attached as "Compromise #1" the specifics of what PAS wants.

Another "compromise" that is being discussed is to lift the restriction completely at some point in the future, with an interim period of partial lifting of the restriction beginning in 1992. The nature of the interim service allowed will determine how palatable it is, and whether U.S. industry and the business community view this as a positive step of the Bush Administration. I have attached as "Compromise #2" an interim solution that would be acceptable to PAS.

As a final reminder, the United States is the only country in the world to impose this restriction unilaterally.

I think Senator Rockefeller, with his telecommunications and defense background, can play a vital role in securing over a solution that will provide the most public benefit. I appreciate your help.

Regards.

MEMORANDUM

VIA FACSIMILE

TO: Rene Anselmo

FROM: Janet R. Studley

DATE: June 27, 1991

RE: Meeting with Vice President Quayle

Here are two letters requesting the meeting -- one from Bill Richardson and one from Chris Shays. Bill's secretary also faxed these to Quayle's personal appointments secretary. She hopes to have the appointment sooner.

It was great to see you yesterday.

cc: Tom Whitehead
Henry Goldberg

BILL RICHARDSON
3D DISTRICT, NEW MEXICO

COMMITTEES:
ENERGY AND COMMERCE
INTERIOR AND INSULAR AFFAIRS
HELSINKI COMMISSION
ON HUMAN RIGHTS
SELECT COMMITTEE ON INTELLIGENCE
SELECT COMMITTEE ON AGING

Congress of the United States
House of Representatives
Washington, DC 20515

(202) 225-6190

SANTA FE
548 AGUA FRIA
SANTA FE, NM 87501
(505) 988-7230

GALLUP
GALLUP CITY HALL
GALLUP, NM 87301
(505) 722-8522

LAS VEGAS
SAN MIGUEL COUNTY COURTHOUSE
P.O. BOX 1805
LAS VEGAS, NM 87701
(505) 425-7272

June 17, 1991

Mr. Gary Andres
The White House
Room 112, East Room
1600 Pennsylvania Avenue
Washington, D.C. 20500

Dear Gary:

I would greatly appreciate your assistance in scheduling a meeting with Vice President Dan Quayle to discuss telecommunications and space issues for fifteen minutes with me, Representative Chris Shays, and Rene Anselmo, President of Pan American Satellite.

I appreciate your help in expediting this meeting.

Sincerely,

Bill

BILL RICHARDSON
Member of Congress

BR/iw
enc.

c: Chris Shays

CONGRESS OF THE UNITED STATE

June 25, 1991

Bill, As per our conversation. Many thanks Chris

Mr. Gary J. Andres
Special Assistant to the President
for Legislative Affairs
The White House
1600 Pennsylvania Avenue
Washington, D.C. 20026

Dear Gary:

I am writing in support of the letter you received dated June 17 from Congressman Bill Richardson.

The letter was regarding our desire to arrange a meeting with Vice President Quayle, myself, Congressman Richardson and my constituent, Rene Anseimo, President of Pan American Satellite.

I would very much appreciate your assistance with scheduling this meeting. Thank you for your attention.

Sincerely,

Christopher Shays
Member of Congress

CS:jp

cc: The Honorable Bill Richardson

Congressman
Christopher Shays
Fourth District Connecticut

Offices
10 Middle Street
Bridgeport, CT 06604
579-5870

888 Washington Boulevard
Stamford, CT 06901
357-8277

125 East Avenue
Norwalk, CT 06851
866-6469

1531 Longworth Building
Washington, DC 20515
202/225-5541

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To T. WHITEHEAD	From FAL
Co.	Co.
Dept.	Phone #
Fax # 703-847-8809	Fax #

Mr. Frederick A. Landman

President

One PickWick Plaza

Greenwich

Connecticut 06830

United States of America

Dear Mr. Landman

I am responding to your letter, dated April 30, 1991, in which you ask some clarification on the specific references in our presentation on the outline of strategy.

The following is the clarification thereon.

Regarding page 3: With the condition that earth terminals are radio stations, transmission lines connecting transmission points include earth terminals. A Type II business excludes earth terminals of radio stations when the Type II telecommunications business establishes telecommunications circuit facilities thereby. In the presentation on the outline of strategy, we wrote: Alpha Lyracom may have, on a contractual basis, earth stations established and operated in conjunction with Alpha Lyracom's telecommunications services to be equipped with and to make use of telecommunications facilities it may desire for its effective and satisfactory services, providing that the ownership of the said facilities does not belong thereto. It is to be noticed, however, that the Ministry of Posts and Telecommunications seems to have become more flexible in its interpretation of the Telecommunications Business Law. The new stance of the Ministry, which was indicated in the unofficial meetings with the officials thereof and us, appears to be to the effect that the meaning of the term "establish" could be almost identical to "control", that is, telecommunications

circuit facilities are deemed to be established when a person for whose name a license has been granted is in charge of the operation of telecommunications circuit facilities to the extent that he is legally responsible for the situations incurred therefrom. Please be advised that the indication of such interpretation by the Ministry is an unofficial one and not expected to become open.

Regarding page 5: It is of our understanding that the Ministry takes the position that transponder sales by a satellite licensed in a foreign country can only be done to a Type I carrier, provided that the salee of the said transponder uses it for telecommunications services. In case of lease such tranponder is apparantly able to be leased only to a Type I carrier, when the lease is of the nature that it gives the control of the transponder to the leasee (such as in a lease in line with IRU). A satellite licensed in a foreign country seems not to be permitted to lease a transponder in the way that the satellite reserves thereto the control of it. It is also of our understanding that the position of the Ministry is as a matter of law.

Regarding page 6: It is in the jurisdiction of a Type II carrier that international telecommunications services are offered by utilizing telecommunications facilities connecting Japanese and overseas nodes. Performance of international telecommunications by utilizing such telecommunications facilities itself does not fall under the definition of Type II carriers.

Regarding page 7: As indicated hereabove regarding page 3, although ownership of telecommunications circuit facilities is an important factor in the decision for the establishing of telecommunications circuit facilities, it is not an indispensable one therein.

Regarding page 8: The paragraph refers to prospective reaction of NTT when it faces possible reduction in its income.

Regarding the suggestion you made under the lead "GENERAL": So long as Alpha Lyracom establishes a special Type II, Alpha Lyracom may own it 100% since the Telecommunications Business Law does not place any limit on foreign capital investment thereto. According to the unofficial indication by the Ministry referred to hereabove regarding page 3, a special Type II carrier may provide and operate earth terminals in conjunction with its services to customers on the condition that such provision and operation are not deemed as the controling of telecommunications circuit facilities. Providing telecommunications circuit facilities in telecommunications business is exclusively reserved to Type I carriers by the Telecommunications Business Law.

May 16, 1991

Sincerely,

Kanenori OSHIKIRI

LAW OFFICES
GOLDBERG & SPECTOR
1229 NINETEENTH STREET, N.W.
WASHINGTON, D.C. 20036

HENRY GOLDBERG
PHILLIP L. SPECTOR
JEFFREY H. OLSON
JOSEPH A. GOOLES
JONATHAN L. WIENER
HENRIETTA WRIGHT

THOMAS G. GHERARDI, P.C.
COUNSEL

(202) 429-4900
TELECOPIER:
(202) 429-4912
TELEX
892320

FACSIMILE COVER SHEET

TO: Tom Whitehead

FROM: Phil Spector

Date: 5/29/91

TELECOPIER NO. _____

NUMBER OF PAGES INCLUDING COVER: 5

If you have any questions or do not receive all pages, please call (202) 429-4900.

NOTES/COMMENTS:

I ran across this in another context. Is there any way that we can use it?

I haven't received the Duane Andrews letter. Steve Latt called to ask about it.

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

IN THE MATTER OF AMERICAN TELEPHONE AND TELEGRAPH COMPANY FEDEX INTERNATIONAL TRANSMISSION CORPORATION FTC COMMUNICATIONS, INC. GTE HAWAIIAN TELEPHONE COMPANY INCORPORATED LONG DISTANCE/USA MCI INTERNATIONAL INC. TRT/FTC COMMUNICATIONS, INC. US SPRINT COMMUNICATIONS COMPANY LIMITED PARTNERSHIP WORLD COMMUNICATIONS, INC.	
Joint Application for Authorization under Section 214 of the Communications Act of 1934, as amended, to Construct, Acquire Capacity in and Operate a High Capacity Digital Submarine Cable System Between the United States Mainland and the State of Hawaii	File No. I-T-C-90-081

COMMENTS OF THE DEPARTMENT OF DEFENSE

The Secretary of Defense, through duly authorized counsel, pursuant to Section 201 of the Federal Property and Administrative Services Act of 1949, 40 USC Section 481, and the Memorandum of Understanding between the Department of Defense and the General Services Administration dated November 27, 1950, on behalf of the consumer and national security interests of the Department of Defense (DoD), hereby submits these COMMENTS OF THE DEPARTMENT OF DEFENSE in support of the captioned Joint Application.[1]

[1]DoD also supports the Joint Licensing Application, File No, SCL-90-004.

DOD'S INTERESTS

As it has urged in other facilities matters, DoD urges in this proceeding that the Commission consider two critical factors:

1) That maximum possible diversity and redundancy of transmission paths are essential to providing the necessary degree of connectivity and survivability (i.e., security) of DoD and other critical US Government and private sector communications.

2) That cost and technology are not the only significant concerns in assessing the quality of service of any facilities plan, because from a national defense and security standpoint, service reliability during the period after a facility failure and before restoration is extremely important.

DoD believes the proposed HAW-5 cable system should be approved since it favorably and directly addresses these two factors.

THE PROPOSED CABLE SYSTEM

The proposed HAW-5 cable system would be the second fiber optic common carrier submarine cable directly linking the United States mainland and Hawaii and would be part of an integrated common carrier network designed to meet specific service requirements for additional digital cable facilities in the Pacific Ocean Region (POR).

The proposed HAW-5 cable system would improve digital cable restoration capabilities in the POR and would increase the number of transmission paths across the Pacific, thereby enhancing service reliability.

Moreover, because the proposed HAW-5 cable system will be on a separate route from the HAW-4 portion of the HAW-4/TPC-3 Cable system, path diversity between the United States Mainland and Hawaii will be enhanced. This decreases the likelihood that service outages could occur. Diversity is further enhanced as not only the routes of the two fiber optic cables are different but the landing points in California and Hawaii differ as well (HAW5: San Luis Obispo/Keawaula; HAW4: Point Arena/Makaha).

Finally, DoD believes that users should have a choice as to whether cable or satellite facilities will better serve to meet user requirements. The proposed HAW-5 cable system will provide additional media diversity in the POR and thus provide DoD (and other potential users) increased options to meet particular service requirements.

As shown, the proposed HAW-5 cable system would enhance diversity, redunancy and service options.

CONCLUSION

Wherefore, for all of the foregoing reasons, DoD supports the proposed HAW-5 cable system as responsive to DoD's consumer and national defense interests and urges the Commission to authorize its construction.

Respectfully submitted,

PAUL R. SCHWEDLER
Assistant Chief
Regulatory Counsel

CARL WAYNE SMITH
Chief Regulatory Counsel - Telecommunications
Department of Defense
Washington, DC 20305-2000
202-692-6957

For
The Secretary of Defense

HOLLAND & KNIGHT
Law Offices
FAX COVER PAGE

Bradenton, FL 34206
(813) 747-6550
Fax: (813) 748-6945

Miami, FL 33101
(305) 374-8500
Fax: (305) 374-1164

Tampa, FL 33601
(813) 227-8500
Fax: (813) 229-0134

Ft. Lauderdale, FL 33302
(305) 525-1000
Fax: (305) 463-2030

Orlando, FL 32802
(407) 425-8500
Fax: (407) 423-3397

Jacksonville, FL 32202
(904) 353-2000
Fax: (904) 358-1872

Lakeland, FL 33802
(813) 682-1161
Fax: (813) 688-1186

Tallahassee, FL 32302
(904) 224-7000
Fax: (904) 224-8832

Washington, DC 20006
(202) 955-5550
Fax: (202) 955-5564

TO: Tom Whitehead REPLY TO: WASHINGTON, D.C. FROM: Janet Studley

CITY: _____

MESSAGE: _____

_____

_____

URGENCY OF FAX: SUPER RUSH (Immediate) ☑ RUSH (Within 1 hour) ☐

EMPLOYEE NAME A. Ellis LOCATION Washington Ext: 5934

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To HW	From Phil Spector
Co.	Co.
Dept.	Phone #
Fax #	Fax #

MEMORANDUM

TO: Henry Goldberg

FROM: Phillip L. Spector

RE: PAS Antitrust Lawsuit -- Designation of the Department of State as the Representative of the U.S. Party

DATE: January 16, 1991

In connection with the PAS reply brief, you have asked for references to the role of the Department of State as the "representative" of the U.S. Party to Intelsat. That role arises out of various executive orders which delegate the President's functions with respect to Intelsat to the Secretary of State. Surprisingly, none of these executive orders refers explicitly to State acting as the representative of the U.S. Party.

The FCC, in discussing the organization and activities of Comsat, has provided the most clear statements that I was able to locate regarding State's role:

> [W]e are mindful that the ultimate disposition of any Article XIV(d) matter will occur in the Assembly of Parties where the U.S. will be represented by the Department of State rather than Comsat.

In the Matter of Comsat Study -- Implementation of Section 505 of the International Maritime Satellite Telecommunications Act, 77 F.C.C.2d 564, 631 (1980). See also id. at 747:

> [W]e are fully mindful of the fact that the ultimate disposition of many matters before INTELSAT will occur at the Assembly of Parties, where the U.S. Representative is a principal officer of the Department of State.

DRAFT

Lawrence S. Eagleburger
Deputy Secretary
Department of State
2201 C Street, N.W.
Washington, D.C. 20520

Dear Deputy Secretary Eagleburger:

Last October, I wrote to Secretary Baker about my interest in the Petition for Rulemaking filed with the Federal Communications Commission by Pan American Satellite ("PAS") regarding authority to provide telecommunications services interconnected with the public switched network ("PSN"). In February, the Department of State and the Department of Commerce requested that the Commission delay the rulemaking proceeding until the Executive Branch completed a review of separate satellite systems policy. I am writing again to confirm my interest in this matter and to urge the Department to support granting the petition.

The public now has had an opportunity to file comments with the Commission on this matter. The overwhelming majority of comments have supported removal of the PSN restriction. These comments demonsrate that, while PAS may be the principal beneficiary today, removal of the restriction will enable others to enter this market. The comments filed by the telecommunications industry included users, equipment suppliers and manufacturers, as well as other emerging international satellite companies. Having set this industry in motion, U.S. policy should now enable it to compete freely.

In my October letter I discussed the reasons why I believe our current policy no longer serves U.S. interests. Removal of the PSN restriction now will allow the United States to maintain a leadership role in promoting telecommunications competition overseas and in helping developing countries to build their communications infrastructures.

At a time when we are trying to export competition and to promote democracy abroad, we ought not cling to a policy that limits free competition and expanded opportunities for open communications. I am concerned that some might argue that the United States should wait to act on this until foreign interests are more supportive of it. Delay only will result in lost opportunities. It is time for the United States to demonstrate its strong commitment to open markets and to diversity in international telecommunications.

I would welcome an opportunity to discuss this with you further before the Department finalizes its position.

With best regards, I remain

Sincerely yours,

Dante B. Fascell
Chairman

25951P 0007LE:349

DRAFT:
May 15, 1991

LAW OFFICES
GOLDBERG & SPECTOR
1229 NINETEENTH STREET, N.W.
WASHINGTON, D.C. 20036

HENRY GOLDBERG
PHILLIP L. SPECTOR
JEFFREY H. OLSON
JOSEPH A. GODLES
JONATHAN L. WIENER
HENRIETTA WRIGHT

THOMAS G. GHERARDI, P.C.
COUNSEL

(202) 429-4900
TELECOPIER:
(202) 429-4912
TELEX:
892320

MEMORANDUM

VIA TELECOPIER

TO: Frederick A. Landman
Clay T. Whitehead

FROM: Henry Goldberg
Phillip L. Spector
Jeffrey H. Olson

RE: Acquisition of an Interest in Pan American Satellite by More than One BOC

DATE: May 13, 1991

This memorandum responds to your question regarding the existence of any MFJ-based restrictions on more than one BOC acquiring an interest in Pan American Satellite. As discussed below, there are no per se proscriptions against such BOC investments, but the question nevertheless cannot be definitively answered.

Our prior memoranda of August 14, 1990, and March 8, 1991, outline the general considerations relevant to any BOC investment in Pan American Satellite. The question of whether two or more BOCs could make such an investment should be governed by the same overall principles. Only two prior decisions by Judge Greene shed any light on the subject, and neither of those presented facts directly on point.

In the case involving Ameritech's and Bell Atlantic's joint venture to acquire an interest in Telcom Corporation of New Zealand, the fact that more than one BOC was involved did not appear to be of any particular significance to the court in granting the necessary MFJ waiver (our memorandum of August 14, 1990, discusses the decision at length). However, at footnote 27 of the court's opinion (a copy is appended to our August 14 memorandum), Judge Greene described a hypothetical situation in which "all seven Regional companies proposed to form a consortium to purchase a majority interest in an international submarine cable or satellite system, with each owning a less than ten percent interest." Judge Greene concluded that this "venture" would be "clearly prohibit[ed]" by the MFJ.

Previously, in the case involving PacTel's acquisition of a 5% interest in a trans-Pacific cable, Judge Greene had responded in a less forceful (albeit negative) fashion to an analogous hypothetical posited by one of the parties. See Memorandum (Feb. 13, 1989) at 16-17. Again, there was no discussion of the considerations that might be involved in such a case.

In light of these pronouncements, we spoke informally with a ranking member of the DOJ's MFJ-enforcement staff. He indicated that, so long as each BOC were making an independent investment decision and there were no indications of collusion or concerted activity, DOJ might support the necessary waiver request. He emphasized, however, that prior commitments on the subject could not be made; each case will have to be judged on its specific facts.

LAW OFFICES
GOLDBERG & SPECTOR
1229 Nineteenth Street, N.W.
Washington, D.C. 20036

Telephone:
(202) 429-4900
Telecopier:
(202) 429-4912

FAX TRANSMISSION COVER SHEET

TO: C. T. WHITEHEAD

FROM: HENRY GOLDBERG

DATE: 4/25/91

TELECOPIER NO:

NUMBER OF PAGES INCLUDING COVER: 2

If you have any questions or do not receive all pages, please call (202) 429-4900.

NOTES:

Here's a one-pager on the history of reform at Intelsat. Give me your thoughts.

INTELSAT LIBERALIZATION AND THE PSN RESTRICTION

- Comsat's principal argument against modification of the U.S. separate satellite PSN restriction is that the U.S. should not move too quickly, because Intelsat is liberalizing and will modify its policies in "the long run." This argument has been used before. In every case in which the U.S. held back out of fear of offending the member telephone companies of Intelsat, the organization has obstructed or delayed liberalization.

- For example, in early 1989, Intelsat undertook a "study" of Article XIV(d) of the Intelsat Agreement, which is one of the principal anti-competitive procedural tools available to Intelsat. It requires "consultation" with Intelsat to see if the private system will cause significant economic harm to Intelsat. The U.K., Australia, and New Zealand urged either the complete elimination of Article XIV(d), or a substantial reduction of its use in an anti-competitive manner. The United States, however, at Comsat's urging, took a more conciliatory, "don't rock the boat" position.

- The Intelsat Assembly of Parties (in which voting is based on "one nation, one vote"), not surprisingly, undertook even less liberalization than the United States had advocated. After a year and a half of "study" and "analysis" the Intelsat Assembly delegated to the Board (but did not eliminate) the economic harm test for private satellite systems with fewer than 30 transponders, and fewer than 100 telephone circuits. Any single satellite typically has more than 30 transponders and 100 telephone circuits is a drop in the ocean.

- Other examples of Intelsat's resistance to voluntary liberalization abound. The common thread running through all of these examples is that, while Intelsat has responded to competitive pressures in the marketplace with alacrity, it has used its internal processes to "reform" itself only very slowly and grudgingly. Rather, it protects its own monopoly and the domestic monopolies of most of its PTT members.

LAW OFFICES
GOLDBERG & SPECTOR
1229 Nineteenth Street, N.W.
Washington, D.C. 20036

Telephone:
(202) 429-4900
Telecopier:
(202) 429-4912

FAX TRANSMISSION COVER SHEET

TO: F. LANDMAN / C. WHITEHEAD

FROM: HENRY GOLDBERG

DATE: Monday, April 1, 1991

TELECOPIER NO: 703/847-8804

NUMBER OF PAGES INCLUDING COVER: 7

If you have any questions or do not receive all pages, please call (202) 429-4900.

NOTES:

FYI how the government can help you with a launch or similar benefit, but not a good PSN policy.

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release February 12, 1991

STATEMENT BY THE PRESS SECRETARY

The President has approved U.S. Commercial Space Policy Guidelines aimed at expanding private sector investment in space by the market-driven Commercial Space Sector. These guidelines are the result of a nine month interagency review of the commercial space sector conducted by the Vice President and the National Space Council.

The U.S. Commercial Space Policy Guidelines recognize that a robust commercial space sector has the potential to generate new technologies, markets, jobs, and other important economic benefits to the nation. The guidelines contain new provisions and definitions of key concepts to provide for more effective implementation of the National Space Policy by U.S. agencies.

# # #

U.S. COMMERCIAL SPACE POLICY GUIDELINES

A fundamental objective guiding United States space activities has been space leadership, which requires preeminence in key areas of space activity. In an increasingly competitive international environment, the U.S. Government encourages the commercial use and exploitation of space technologies and systems for national economic benefit. These efforts to encourage commercial activities must be consistent with national security and foreign policy interests, international and domestic legal obligations, including U.S. commitments to stem missile proliferation, and agency mission requirements.

United States space activities are conducted by three separate and distinct sectors: two U.S. Government sectors -- the civil and national security -- and a non-governmental commercial space sector. The commercial space sector includes a broad cross-section of potential providers and users, including both established and new market participants. There also has been a recent emergence of State government initiatives related to encouraging commercial space activities. The commercial space sector is comprised of at least five market areas, each encompassing both earth and space-based activities, with varying degrees of market maturity or potential:

Satellite communications - the private development, manufacture, and operation of communications satellites and marketing of satellite telecommunications services, including position location and navigation;

Launch and Vehicle Services - the private development, manufacture, and operation of launch and reentry vehicles, and the marketing of space transportation services;

Remote Sensing - the private development, manufacture, and operation of remote sensing satellites and the processing and marketing of remote sensing data;

Materials Processing - the experimentation with, and production of, organic and inorganic materials and products utilizing the space environment; and

Commercial Infrastructure - the private development and provision of space-related support facilities, capabilities and services.

In addition, other market-driven commercial space sector opportunities are emerging.

The U.S. Government encourages private investment in, and broader responsibility for, space-related activities that can result in products and services that meet the needs of government and other customers in a competitive market. As a matter of policy, the U.S. Government pursues its commercial space objectives without the use of direct federal subsidies. A robust commercial space sector has the potential to generate new technologies, products, markets, jobs, and other economic benefits for the nation, as well as indirect benefits for national security.

Commercial space sector activities are characterized by the provision of products and services such that:

-- private capital is at risk;

-- there are existing, or potential, non-governmental customers for the activity;

-- the commercial market ultimately determines the viability of the activity; and

-- primary responsibility and management initiative for the activity resides with the private sector.

Implementing Guidelines

The following implementing guidelines shall serve to provide the U.S. private sector with a level of stability and predictability in its dealings with agencies of the U.S. Government. The agencies will work separately but cooperatively, as appropriate, to develop specific measures to implement this strategy. U.S. Government agencies shall, consistent with national security and foreign policy interests, international and domestic legal obligations and agency mission requirements, encourage the growth of the U.S. commercial space sector in accordance with the following guidelines:

o U.S. Government agencies shall utilize commercially available space products and services to the fullest extent feasible. This policy of encouraging U.S. Government agencies to purchase, and the private sector to sell, commercial space products and services has potentially large economic benefits.

-- A space product or service is "commercially available" if it is currently offered commercially, or if it could be supplied commercially in response to a government procurement request.

-- "Feasible" means that products and services meet mission requirements in a cost-effective manner.

-- "Cost-effective" generally means that the commercial product or service costs no more than governmental development or directed procurement where such government costs include applicable government labor and overhead costs, as well as contractor charges and operations costs.

-- However, the acquisition of commercial space products and services shall generally be considered cost-effective if they are procured competitively using performance-based contracting techniques. Such contracting techniques give contractors the freedom and financial incentive to achieve economies-of-scale by combining their government and commercial work as well as increased productivity through innovation.

-- U.S. Government agencies shall actively consider, at the earliest appropriate time, the feasibility of their using commercially available products and services in agency programs and activities.

-- U.S. Government agencies shall continue to take appropriate measures to protect from disclosure any proprietary data which is shared with the U.S. Government in the acquisition of commercial space products and services.

o U.S. Government agencies shall promote the transfer of U.S. Government-developed technology to the private sector.

-- U.S. Government-developed unclassified space technology will be transferred to the U.S. commercial space sector in as timely a manner as possible and in ways that protect its commercial value.

-- U.S. Government agencies may undertake cooperative research and development activities with the private sector, as well as State and local governments, consistent with policies and funding, in order to fulfill mission requirements in a manner which encourages the creation of commercial opportunities.

-- With respect to technologies generated in the performance of government contracts, U.S. Government agencies shall obtain only those rights necessary to meet government needs and mission requirements, as directed by Executive Order 12591.

- U.S. Government agencies may make unused capacity of space assets, services and infrastructure available for commercial space sector use.

  -- Private sector use of U.S. Government agency space assets, services, and infrastructure shall be made available on a reimburseable basis consistent with OMB Circular A-25 or appropriate legislation.

- U.S. Government agencies may make available to the private sector those assets which have been determined to be excess to the requirements of the U.S. Government in accordance with U.S. law and applicable international treaty obligations. Due regard shall be given to the economic impact such transfer may have on the commercial space sector, promoting competition, and the long term public interest.

- The U.S. Government shall avoid regulating domestic space activities in a manner that precludes or deters commercial space sector activities, except to the extent necessary to meet international and domestic legal obligations, including those of the Missile Technology Control Regime. Accordingly, agencies shall identify, and propose for revision or elimination, applicable portions of U.S. laws and regulations that unnecessarily impede commercial space sector activities.

- U.S. Government agencies shall work with the commercial space sector to promote the establishment of technical standards for commercial space products and services.

- U.S. Government agencies shall enter into appropriate cooperative agreements to encourage and advance private sector basic research, development, and operations. Agencies may reduce initial private sector risk by agreeing to future use of privately supplied space products and services where appropriate.

  -- "Anchor tenancy" is an example of such an arrangement whereby U.S. Government agencies can provide initial support to a venture by contracting for enough of the future product or service to make the venture viable in the short term. Long-term viability and growth must come primarily from the sale of the product or service to customers outside the U.S. Government.

  -- There must be demonstrable U.S. Government mission or program requirements for the proposed commercial space good or service. In assessing the U.S. Government's mission or program requirements for these purposes, the procuring agency may consider consolidating all

anticipated U.S. Government needs for the particular product or service, to the maximum extent feasible.

-- U.S. Government agencies entering into such arrangements may take action, consistent with current policies and funding availability, to provide compensation to commercial space providers for future termination of missions for which the products or services were required.

o The United States will work toward establishment of an international trading environment that encourages market-oriented competition by working with its trading partners to:

-- Establish clear principles for international space markets that provide an atmosphere favorable to stimulating greater private investment and market development;

-- Eliminate direct government subsidies and other unfair practices that undermine normal market competition among commercial firms;

-- Eliminate unfair competition by governments for business in space markets consistent with domestic policies that preclude or deter U.S. Government competition with commercial space sector activities.

The U.S. Commercial Space Policy Guidelines are consistent with the National Space Policy and the U.S. Commercial Space Launch Policy which remain fully applicable to activities of the governmental space sectors and the commercial space sector.

Reporting Requirements

U.S. Government agencies affected by these guidelines are directed to report by October 1, 1991, to the National Space Council on their activities related to the implementation of these policy guidelines.

LAW OFFICES
GOLDBERG & SPECTOR
1229 Nineteenth Street, N.W.
Washington, D.C. 20036

Telephone:
(202) 429-4900
Telecopier:
(202) 429-4912

FAX TRANSMISSION COVER SHEET

To: Clay T. WHITEHEAD, - C.T. WHITEHEAD

From: Henry Goldberg, Goldberg & Spector

Date: Mon, Apr 1, 1991 • 7:13 PM

Transmitting (3) pages, including cover sheet.

If there is difficulty with this transmission, please call: (202) 429-4900

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GOLDBERG & SPECTOR
1229 Nineteenth Street, N.W.
Washington, D.C. 20036

Telephone:
(202) 429-4900
Telecopier:
(202) 429-4912

MEMORANDUM

TO: Fred LANDMAN cc: C.T. WHITEHEAD / P. RUBIN

FROM: Henry Goldberg

RE: Timetable of Anticipated FCC Action

DATE: Monday, April 1, 1991

After meeting with the FCC staff last Thursday, I believe that the following timetable will apply to our pending applications:

- IFRB Advance Publication:

The Pacific applications already have been forwarded to the IFRB for advance publication. Given the IFRB backlog, we can expect the publication to be in March at the earliest and June at the outside. The Atlantic application (39.5) and the Indian Ocean applications have been hung up by an excess of caution -- 39.5 because of the on-going consultation between Columbia and Intelsat and the Indian Ocean because of some mistaken concerns about the McCaw interference objections.

I believe that Phil Rubin and I have now dealt with these concerns and the staff will push forward with the IFRB materials. Of course, this means that the earliest that they can be advanced published is June, with the more likely date being September.

- FCC Grant of Conditional Authority:

The staff is still struggling with the processing and has not made much progress. Rubin and I told them that our priority was the Atlantic first, then the Pacific, and, shortly

thereafter, the Indian Ocean. We said that we wanted to see the 38.5 and the Pacific out by June/July. Wendell would not commit to a grant in the June/July timeframe; indeed, he said that would be pushing it.

There is no choice but to go back to Firestone to complain and to get some expedited processing now. Left to their own devices, the staff might grant the applications by the end of this year. I think that, with some strong pushing, we can spring the last of the applications by mid-September.

• Pre-grant Construction Authority:

Given the delay in processing, I asked about the possibility of obtaining a §319(d) waiver so that we could begin construction in advance of a grant. Wendell said that was a "possibility," but that they would need to do some more processing of the applications to get to the point of being comfortable with a waiver. Therefore, our pushing on the grant should lead either to a grant or a waiver.

• Article XIV(d) Consultations:

In light of the above, we could start the Intelsat six-month clock running on the Article XIV(d) sometime in September/October and make an Intelsat BG in December 1991, or, more realistically, March 1992, with an AP in March or April 1992.

LAW OFFICES
GOLDBERG & SPECTOR
1229 NINETEENTH STREET, N.W.
WASHINGTON, D.C. 20036

HENRY GOLDBERG
PHILLIP L. SPECTOR
JEFFREY H. OLSON
JOSEPH A. GODLES
JONATHAN L. WIENER
HENRIETTA WRIGHT

THOMAS G. GHERARDI, P.C.
COUNSEL

(202) 429-4900
TELECOPIER:
(202) 429-4912
TELEX:
892320

MEMORANDUM

TO: Clay T. Whitehead

CC: Frederick Landman
Henry Goldberg

FROM: Phillip L. Spector

RE: Pacific Satellite Project -- August 1990 Visits to Tokyo and Seoul

DATE: August 24, 1990

As you know, I travelled earlier this month to Tokyo and Seoul. Although I was visiting both of these cities on other business, I was able to meet in each city with a consultant who may be able to assist PAS with the Pacific satellite project. The following summarizes my discussions:

JAPAN

I discussed the PAS project with Taka Nagashima, a Tokyo lawyer with whom I have worked on other client matters. Mr. Nagashima operates a general law practice, with an office in New York City as well as one in Tokyo, and he is admitted to the bar in Japan, New York, and Washington, D.C. As his bar admittances imply, Mr. Nagashima is fluent in English.

Mr. Nagashima is not particularly expert in communications, although he has a few clients in this business (principally U.S. companies). On behalf of these and other U.S. and Japanese companies, Mr. Nagashima typically acts both as a lawyer and a business adviser, and in the latter capacity he frequently helps U.S. companies to obtain investment capital in Japan. I should note that he is involved in many projects that have no U.S. component at all; for example, he recently represented the major Japanese trading companies in connection with a $30 billion construction project in Africa.

When I described PAS and its Pacific plans to Mr. Nagashima, he was quite interested. He believes that there is significant potential to involve Japanese companies as investors, as users of capacity, and possibly as manufacturers/subcontractors, and he is prepared to begin making contacts on PAS's behalf when we authorize him to do so. He suggested that he might start with the major trading companies.

I have given Mr. Nagashima the recent PAS-Pacific press release and a package of other materials on PAS. I told him that, at such time as you were ready to proceed, we would be contacting him to confirm his representation and to authorize him to begin work. I also told him that, in the event you travel to Japan in the near future, you would undoubtedly wish to meet with him; alternatively, when he is next in his New York office, I indicated that we would attempt to arrange a meeting in New York, Washington, or Greenwich.

Three further matters require note. First, Mr. Nagashima is busy enough to have the luxury of choosing which clients he wishes to work for, and hence I consider us fortunate that he is willing to represent PAS. Second, because of this first fact, my relationship with him, and the fact that he will be using his personal contacts on behalf of PAS, I think it important that we not ask him to move forward until we are relatively certain what our strategy will be.

Finally, I believe that Mr. Nagashima charges on an hourly basis and (unlike an investment banker) would not expect any percentage if he succeeds in obtaining Japanese investment in PAS. I have not discussed this matter specifically with him, however, and we should do so prior to authorizing him to proceed. It is also important that his bills, once submitted, be promptly paid by PAS.

KOREA

My Korean contact is Dr. Yong Son, Dean of the Graduate School of Mass Communication at Chung Ang University in Seoul. Dr. Son is a very old friend of mine, dating back to my high school years in Los Angeles (when he was in graduate school there). He received his Ph.D. from a U.S. university, has lived in the United States as a visiting scholar, and is fluent in both spoken and written English.

Although I have known Dr. Son socially for many years, I did not fully appreciate, until my recent trip, how significant his professional accomplishments are in Korea. Korean society is quite hierarchical, and -- by virtue both of his prominent family and his achievements as a professor -- Dr. Son is near the top of the hierarchy. His contacts in government, industry, and the media are extensive. For example, he arranged a long meeting for

me with Korea's Vice Minister of Communications (the Minister apologized for not attending, but was in Moscow); he also arranged an interview for me with Seoul's largest daily newspaper (during the interview, I discussed PAS's Pacific plans). Dr. Son knows such industry figures as Samsung's Chairman and writes an influential newspaper column on media and journalism.

Apart from his academic work, Dr. Son acts as a consultant to several U.S. and Korean firms, primarily in communications matters. He has been a consultant to DACOM, and indeed was instrumental in the creation of this privatized Korean data communications carrier. He also has served as a consultant to the Ministry of Information with respect to broadcast privatization and has been involved in the government planning for the launch of a Korean domestic satellite.

Dr. Son has been enthusiastic about the PAS project since I first mentioned it to him. He has asked for detailed information, and I have sent a package of materials to him. He believes that there will be substantial interest in this project among Korean companies, and he is confident (despite my warnings about Intelsat's influence) regarding Korean government approval of the project. He thinks that the government might consider the purchase of a few domestic transponders on PAS as an alternative to the expense of launching a Korean domsat.

I outlined for Dr. Son four specific areas in which PAS might need assistance in Korea:

(1) Obtaining financing for/investment in the PAS Pacific project;

(2) Securing large users for PAS Pacific satellite capacity;

(3) Involving Korean industrial and electronics companies in satellite design and manufacturing (an area where, according to Dr. Son, there is substantial Korean private industry and government interest); and

(4) Securing Korean government approval with respect to any or all of the above, and with respect more generally to "landing rights" in Korea.

As with Mr. Nagashima, I asked Dr. Son not to begin any work on PAS's behalf until you or I had contacted him and confirmed that he was being retained, and on what basis. In this latter respect, Dr. Son's consulting relationships typically involve a flat monthly retainer amount (e.g., $1,500 per month), together with a "success fee" in the event that he achieves defined objectives (e.g., a percentage of any Korean investment in the project).

Also, as with Mr. Nagashima, it is important that we not ask Dr. Son to proceed until we are relatively certain about PAS's goals in Korea. Given the high-level nature of his contacts, and the importance of honor and family name in Korea, I would not want Dr. Son to "go all out" on PAS's behalf until PAS is certain that it is moving forward aggressively with the project. It is also important that, once we commit to pay him a monthly retainer, we meet that commitment punctually each month.

I told Dr. Son that you might be visiting Korea and would undoubtedly wish to meet with him if you did so. Alternatively, if you do not have an opportunity to visit Korea this fall, Dr. Son will be attending the Pacific Telecommunications Council meeting in Honolulu in January. Assuming that you plan to attend (I may also be attending), this would give you an opportunity to discuss Dr. Son's representation with him.

CONCLUSION

Largely on the basis of my personal relationships with them, both Mr. Nagashima and Dr. Son are willing to work for PAS in their respective countries. They have been provided with basic information on PAS and separate satellite systems, and they await further word from us as to whether and how we would like them to proceed.

LAW OFFICES
GOLDBERG & SPECTOR
1229 NINETEENTH STREET, N.W.
WASHINGTON, D.C. 20036

HENRY GOLDBERG
PHILLIP L. SPECTOR
JEFFREY H. OLSON
JOSEPH A. GOOLES
JONATHAN L. WIENER
HENRIETTA WRIGHT

THOMAS G. GHERARDI, P.C.
COUNSEL

(202) 429-4900
TELECOPIER
(202) 429-4912
TELEX:
892320

FACSIMILE COVER SHEET

FRED LANDMAN

TO: DR. TOM WHITEHEAD

FROM: PHIL SPECTOR

Date: 2/8/91

TELECOPIER NO. ##7-6

NUMBER OF PAGES INCLUDING COVER: 7

If you have any questions or do not receive all pages, please call (202) 429-4900.

NOTES/COMMENTS:

LAW OFFICES
GOLDBERG & SPECTOR
1229 NINETEENTH STREET, N.W.
WASHINGTON, D.C. 20036

HENRY GOLDBERG
PHILLIP L. SPECTOR
JEFFREY H. OLSON
JOSEPH A. GODLES
JONATHAN L. WIENER
HENRIETTA WRIGHT

THOMAS G. GHERARDI, P.C.
COUNSEL

(202) 429-4900
TELECOPIER:
(202) 429-4912
TELEX
892320

February 8, 1991

VIA TELECOPIER

Dr. Yong Son, Professor & Dean
Graduate School of Mass Communication
Chung Ang University
Seoul, 156-756, Korea

Re: Pan American Satellite

Dear Yong:

This letter should be followed on your telecopier by a draft of the Consulting Agreement. The draft has been reviewed by Fred Landman, and is now submitted for your review. After Fred, you, and I discuss any changes that you may wish to propose to the enclosed draft, I will prepare a final document for signature (via facsimile) by Fred and you.

Fred also asked me to inform you that the dates for his and Tom Whitehead's Korean visit have been firmed up. They expect to arrive in Seoul on the afternoon of March 6, and would be available for meetings on March 7, 8, and 9. As you schedule meetings for this period, please keep Fred informed, so that he, Tom, and Donaldson, Lufkin & Jenrette are able to work around your scheduled meetings in setting up any additional meetings that they may wish to arrange.

Finally, Fred asked me to inform you that Donaldson, Lufkin & Jenrette has had some preliminary discussions about Pan American Satellite with a person characterized as one of the top executives of Daewoo Industries, Suk Heun Yur. To the extent that you make any contacts with Daewoo, you should be aware of this previous contact by DLJ.

I look forward to receiving your comments on the enclosed draft Agreement.

Sincerely yours,

Phillip L. Spector

cc (via telecopier, with enclosure):
Mr. Frederick Landman
Dr. Clay T. Whitehead

CONSULTING AGREEMENT

DRAFT

This Consulting Agreement (the "Agreement") is made and entered into as of January 15, 1991, by and between Alpha Lyracom d/b/a Pan American Satellite (referred to herein, together with its affiliates, as the "Company"), and Yong Son ("Consultant").

WITNESSETH:

WHEREAS, the Company is in the business of developing and operating an international communications satellite system; and

WHEREAS, the Company desires to retain Consultant in a consulting capacity to avail itself of his knowledge and expertise in telecommunications in the Republic of Korea; and

WHEREAS, Consultant desires to be affiliated with the Company in such consulting capacity, subject to the terms and conditions of this Agreement.

NOW, THEREFORE, in consideration of the premises and mutual covenants and agreements contained herein, and subject to the conditions set forth herein, the parties hereto agree as follows:

1. Duties.

During the term of this Agreement as provided in Section 2, Consultant agrees to serve the Company as a consultant and the Company agrees to retain Consultant in accordance with the terms and conditions of this Agreement. Consultant shall:

(i) Advise the Company regarding telecommunications standards and requirements relating to the Company's operations in the Republic of Korea (the "Designated Country") and such other Asian countries as Consultant and the Company shall mutually agree upon (the "Other Countries");

(ii) Meet and consult with telecommunications and other authorities in the Designated Country, to seek to assure that the Company (a) is able to operate on commercially advantageous terms, with respect to both domestic and international communications, in the Designated Country, (b) achieves Designated Country cooperation with respect to Intelsat consultations and other international organizations' requirements, and (c) complies with all applicable telecommunications standards and requirements in the Designated Country;

(iii) Advise the Company about potential strategic alliances and business and investment opportunities in the Designated Country and the Other Countries;

(iv) Assist the Company in obtaining investments and/or service commitments from companies and/or government agencies in the Designated Country;

(v) Perform such other services as shall be mutually agreed to between Consultant and the Company with a view to facilitating the operations of the Company in the Designated Country; and

(vi) Report to the President of the Company, or such other officer or representative of the Company as the President may designate.

2. Term.

This Agreement shall remain in full force and effect for a period of six (6) months from the date set forth above, and thereafter, from month to month unless terminated as provided in this Section. After the initial six-month term, either party may terminate this Agreement (other than the provisions of Sections 3(c) and 5, which shall survive the termination of this Agreement) at any time, upon thirty (30) days' prior written notice to the other party.

3. Compensation.

(a) As payment for the services rendered by Consultant hereunder, the Company shall pay to Consultant the sum of US$2,000 per month (the "Retainer"). The Retainer shall be paid within ten (10) days following Consultant's submission of an invoice for the Retainer, which invoice may be sent by Consultant not more than thirty (30) days prior to the end of each monthly period to which the Retainer is allocable.

(b) In addition to such Retainer, the Company shall reimburse Consultant, within ten (10) days following Consultant's submission of an invoice containing an itemized accounting, for all reasonable out-of-pocket expenses incurred by Consultant in connection with travel out of the Designated Country that is necessary to the performance of his duties hereunder. Such travel shall be approved in advance by the Company. When travelling by airplane in connection with his duties hereunder, Consultant shall be entitled to fly in "Business" or "Executive" class (or, if Business or Executive Class is not available, then in First Class).

(c) In addition, any strategic alliances or business or investment opportunities which the Company or its subsidiaries realize in the Designated Country and/or the Other Countries as a result of Consultant's introduction or participation, or in which he plays a significant role, is compensable through the payment of a "Success Fee." The Company's obligation to pay the Success Fee shall survive the termination of this Agreement for a period of twelve (12) months, provided that Consultant's activities in relation thereto occurred during the term of this Agreement, subject to Section 4. The amount of said Success Fee will be determined on a case-by-case basis in the Company's sole discretion and shall reflect the Consultant's efforts, the size of the transaction, and the nature of the consideration offered to the Company in such transaction, among other factors, with a

percentage range from 3/8ths of one percent to 3/4ths of one percent (0.375%-0.750%). The Success Fee shall be payable in cash at the closing of such transaction.

(d) Any and all payments made by Company to Consultant shall be in U.S. dollars and shall be remitted to such address as Consultant may specify in his invoice or otherwise. Company shall, upon Consultant's instructions, arrange for bank wire transfer of any payment to such bank as Consultant may specify.

4. Non-Competition.

During the term of this Agreement, Consultant shall not, directly or indirectly, in the Designated Country or any other geographic area where the Company does or intends to do business, render any services of a business, commercial, or professional nature to any person or entity providing, or associated with the provision of, international satellite services.

5. Confidentiality.

Consultant acknowledges that, during the term of this Agreement, he will have access to confidential or proprietary information (including, without limitation, technical information, financial projections, and marketing information) relating to the business and operations of the Company and its parent, subsidiary, and affiliated companies. Consultant agrees that all such information, to the extent identified in writing by Company as confidential (the "Confidential Information"), shall be kept and treated as confidential during the term and after the termination of this Agreement. Consultant shall not use or disclose the Confidential Information (other than in connection with the performance of Consultant's duties hereunder); provided, however, that Consultant shall not incur any liability for disclosure of Confidential Information if (a) such disclosure was permitted in writing by the Company, or (b) such Information is within the public domain or comes within the public domain without any breach of this Agreement, or (c) such disclosure is required by order of any court or governmental authority, provided that Consultant shall first seek (at Company's expense) to maintain confidential treatment within said Court or governmental authority for the Confidential Information. All notes, memoranda, reports, drawings, blueprints, manuals, records, materials, data and other papers of every kind which were in or shall come into Consultant's possession at any time during the term of this Agreement relating to any such Confidential Information shall be the sole and exclusive property of the Company. Consultant shall surrender such property, and any copies, notes, or excerpts thereof, to the Company upon termination of this Agreement or upon the Company's request at any time either during the term or after the termination of this Agreement.

6. Miscellaneous.

6.1 Notices.

Any notice or other communication required or permitted hereunder shall be in writing and shall be deemed to have been duly given on the date of service if served personally or by telecopier, or four (4) days after mailing if mailed by first class air, certified or registered mail with return receipt requested, postage prepaid to the following addresses:

If to Consultant: c/o Graduate School of Mass Communication
Chung Ang University
Seoul, 156-756, Korea
Telecopier No.: 02-812-5355

If to the Company: Pan American Satellite
One Pickwick Plaza, Suite 200
Greenwich, CT 06830
Attention: Mr. Frederick Landman
Telecopier No.: 203-622-9163

Either party may change its address or telecopier number by giving notice to the other party in accordance with the foregoing.

6.2 Injunctive Relief; Consent to Jurisdiction

The Company and Consultant acknowledge that the extent of damages to the Company in the event of a breach of any of Consultant's obligations under Sections 4 or 5 of this Agreement would be difficult or impossible to ascertain and that there is and will be available to the Company no adequate remedy at law in the event of any such breach. Consultant therefore agrees that the Company shall be entitled (without limitation of any other rights or remedies otherwise available to the Company) to obtain an injunction from any court of competent jurisdiction prohibiting the continuance or recurrence of any such breach of this Agreement.

6.3 Other Payments.

Under no circumstances will Consultant make any payments or provide any benefits, or promise to make any payments or provide any benefits, to any person in exchange for political favors, undue influence, or assistance in obtaining investments, service commitments, operating agreements, or any other agreement or arrangement with or involving the Company. A violation of this section is grounds for immediate termination by the Company.

6.4 Headings.

The headings appearing at the beginning of the several sections contained herein have been inserted for identification and reference purposes only and shall not by themselves determine the construction or interpretation of this Agreement.

6.5 Assignment.

This Agreement shall be binding upon and inure to the benefit of the respective heirs, executors, administrators, successors, legal representatives and assigns of the parties; provided, however, that Consultant may not assign any of his obligations hereunder.

6.6 Enforcement.

If any portion of this Agreement shall be determined to be invalid or unenforceable, the remainder shall be valid and enforceable to the maximum extent possible.

6.7 Governing Law.

This Agreement shall be governed by and construed in accordance with the laws of the State of Connecticut, and the laws of the United States in respect of issues requiring the application of federal law in accordance with conflicts of laws principles.

6.8 Entire Agreement and Modification.

This Agreement constitutes and contains the entire agreement of the parties respecting the subject matter hereof and supersedes any and all prior negotiations, correspondence, understandings and agreements between the parties respecting the subject matter hereof. This Agreement may only be modified by a written instrument signed by the parties hereto.

6.9 Counterparts; Facsimile.

This Agreement may be executed via facsimile, or in any number of counterparts, each of which shall be deemed an original but all of which taken together shall constitute one and the same document.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first set forth above.

PAN AMERICAN SATELLITE

By _____

Its _____

YONG SON

_____

LAW OFFICES
GOLDBERG & SPECTOR
1229 NINETEENTH STREET, N.W.
WASHINGTON, D.C. 20036

HENRY GOLDBERG
PHILLIP L. SPECTOR
JEFFREY H. OLSON
JOSEPH A. GODLES
JONATHAN L. WIENER
HENRIETTA WRIGHT

THOMAS G. GHERARDI, P.C.
COUNSEL

(202) 429-4900
TELECOPIER:
(202) 429-4912
TELEX:
892320

October 30, 1990

VIA TELECOPIER

Mr. Clay T. Whitehead
President
Clay Whitehead Associates
1320 Old Chain Bridge Road, Suite 357
McLean, Virginia 22101

Re: PacTel/US West of an Interest in PAS' Pacific Satellites

Dear Tom:

This letter responds to your question to Henry regarding whether PacTel or US West could obtain a waiver of the MFJ to enable it to acquire an interest in PAS' Pacific satellites. Enclosed is a copy of a Memorandum dated August 14, 1990, which discusses the Bell Atlantic/Ameritech acquisition of Telcom Corporation of New Zealand ("TCNZ"), several aspects of which are relevant to your inquiry. Below is a brief discussion of the more salient issues involved.

The short answer to your question is that one of the BOCs might be able to obtain the required MFJ waiver. The main factor favoring a waiver request would be PAS' competitive posture vis-a-vis Intelsat/Comsat. However, the conditions that most likely would be imposed on such a waiver might very well render the arrangement unattractive to either PAS or the BOC. Moreover, PacTel and US West are, from a regulatory perspective, the least attractive candidates for this role.

In the first instance, contrary to the situation involving TCNZ, see Memorandum at 2, traffic to and from the U.S. presumably will be a major component of PAS' business (U.S. traffic represented only 3% of TCNZ's revenues). Thus, to the extent that a BOC would have the ability to discriminate against a PAS competitor (e.g., on local access arrangments), its incentive to do so would be greater than in the New Zealand case.

Second, to the extent that the primary gateways to the PAS Pacific satellites would be in either or both PacTel's and US West's monopoly service area (e.g., Los Angeles and/or Seattle), it becomes easier for the BOC to discriminate. This potential was not present in the New Zealand case.

Third, several operational and marketing conditions most likely would be imposed by Judge Greene, similar to the ones discussed at pages 2-3 of our August 14 Memorandum. Some of these appear to be quite onerous. Moreover, given the increased incentive and potential for discrimination discussed above, even more burdensome conditions could be imposed.

Fourth, as is discussed at page 4 of the Memorandum, it easily could take two years for the BOC to obtain the necessary waiver. There does not appear to be a grounds for obtaining the expedited treatment that was accorded the parties in the New Zealand case. See Memorandum at 5-6.

Fifth, there is a real possibility that Judge Greene would deny the request altogether, as he did with NYNEX's attempt to acquire a controlling interest in a trans-Atlantic cable, the U.S. landing point for which was to be at or near New York City. The likelihood of a similar result in this case increases with the size of the interest in PAS sought by the BOC. To date, all BOC acquisitions of interests in a company carrying international traffic to or from the U.S. that have received Judge Greene's approval fall in the 5-10% range: (1) PacTel's acquisition of a 5% interest in a trans-Pacific cable; and (2) in the New Zealand case, Bell Atlantic and Ameritech were limited to holding a 10% interest in the international facilities already owned by TCNZ which terminated in the U.S. Additionally, at present, Southwestern Bell, NYNEX and US West have pending waiver requests relating to their potential acquisition of an interest in the Mexican carrier Telmex. In each request, the BOC's proposal limits its interest in Telmex to the 5-10% range.

Finally, the present restriction on PAS' ability to interconnect with the public switched network "(PSN") must be considered. See Memorandum at 4. At present, it could be argued that, regardless of the size of a BOC's interest in PAS, the BOC's realisitic incentive and ability to discriminate against PAS' competitors is all but eliminated because PAS cannot compete in the PSN market, the one in which the bulk of international revenues are generated. On the other hand, PAS is making every effort to have that restriction repealed, and in analogous circumstances, Judge Greene has not been reluctant to hold

against a BOC what it (or its would-be affiliate) has been saying in another forum (e.g., to the FCC). Thus, the PSN restriction may not fully insulate a BOC against charges of anticompetitive potential.

If you need anything further, please call.

Very truly yours,

Jeffrey H. Olson

Enclosure

LAW OFFICES
GOLDBERG & SPECTOR
1229 NINETEENTH STREET, N.W.
WASHINGTON, D.C. 20036

HENRY GOLDBERG
PHILLIP L. SPECTOR
JEFFREY H. OLSON
JOSEPH A. GODLES
JONATHAN L. WIENER
HENRIETTA WRIGHT

THOMAS G. GHERARDI, P.C.
COUNSEL

(202) 429-4900
TELECOPIER:
(202) 429-4912
TELEX:
892320

MEMORANDUM

TO: Frederick A. Landman

FROM: Henry Goldberg
Jeffrey H. Olson

RE: Judge Greene's Decision Permitting Ameritech and Bell Atlantic to Acquire an Interest in International Carriers

DATE: August 14, 1990

I. INTRODUCTION

On August 8, 1990, Judge Greene issued a Memorandum opinion and a separate Order (copies of which are enclosed) granting a waiver of the modification of final judgment (MFJ) entered in the AT&T divestiture case to permit a joint venture involving Ameritech and Bell Atlantic to acquire 100% of the equity (to be reduced to 49.1% over the next 3-4 years) of Telecom Corporation of New Zealand ("TCNZ"), which is the monopoly provider of local and long-distance service in New Zealand ("N.Z.") and the monopoly carrier for the N.Z. half of N.Z./U.S. traffic. TCNZ also owns a variety of interests in a number of international communications facilities, including: Intelsat (less than 1%); the ANZACAN cable segment between Hawaii and Canada (5.3%); the TPC-3/HAW-4 cables between Japan, Hawaii and California (.1%); the right to acquire up to a 10% interest in a consortium that plans to construct the TPC-4, HAW-5, PacRim East and TAT-9 cables; and IRUs in one of the trans-Atlantic cables over which traffic between N.Z. and Europe is carried (an American interexchange carrier handles the trans-U.S. segment).

Because international traffic to and from the U.S. qualifies as "interexchange telecommunications" under the MFJ, the BOC's were required to obtain a waiver for their acquisition of an interest in TCNZ.

II. DISCUSSION

The Memorandum's main focus is the potential for anticompetitive conduct by Ameritech and Bell Atlantic in the N.Z./U.S. international market, made possible by TCNZ's status as "gatekeeper" in N.Z. The Court concluded that the danger was sufficiently slight that, with the proper safeguards, a waiver would be appropriate. The two factors that seemed to weigh most heavily in the Court's decision were the absence of any present competition for the N.Z. half of the traffic (i.e., at least for the moment, there is no one for TCNZ to discriminate against) and the fact that N.Z./U.S. traffic accounts for only 3% of TCNZ's revenues. See Memorandum at 6-15.

Of particular potential interest to PAS is the Court's discussion of the significance of TCNZ's interest in the various international facilities identified above. The Court noted that, jointly, Ameritech and Bell Atlantic would own no more than ten percent of any of those facilities (less than 5% individually), and that this interest was consistent with the one Pacific Telesis Group was permitted to acquire in a Japanese-led consortium constructing a new trans-Pacific cable. See Memorandum at 16-18. The Court declined, however, to adopt a 10% benchmark for all future cases, stating that it would "continue to evaluate such waiver requests on a case-by-case basis." Id. at 19. The Court also warned that its decision to permit these two BOCs to become involved in a consortium should not be construed as enabling all the BOCs to create a consortium -- each holding less than 10% equity -- to obtain "a majority interest in an international submarine cable or satellite system...a venture the [MFJ] clearly prohibits." Id. at 18 n. 27.

As noted above, the Court imposed certain conditions on the waiver, some of which would be relevant to a BOC acquisition of an interest in PAS. The conditions are as follows:

1. "totally separate" subsidiaries are required for holding any interest in traffic to or from the U.S.;

2. jointly, the BOCs may not own, via their interest in TCNZ, more than 10% of any of the submarine cables or international satellite systems in which TCNZ presently owns an interest;

3. TCNZ shall not provide U.S. domestic interexchange service or own any "international telecommunications facilities, such as satellite earth stations or cable landing stations," in the U.S.;

4. the BOCs shall not be involved in the marketing of TCNZ's international services in the U.S.;

5. TCNZ shall provide only the N.Z. half of U.S./N.Z. calls and shall not interconnect with the domestic exchange facilities of either Bell Atlantic or Ameritech;

6. TCNZ shall not discriminate among U.S. international service providers regarding U.S./N.Z. service; traffic from N.Z. to the U.S. will be allocated among U.S. carriers in the same ratio that those U.S. carriers deliver U.S.-to-N.Z. traffic to TCNZ, with uniform settlement terms (unless otherwise authorized by FCC); and

7. separate civil contempt penalties are established for violation of these conditions, in addition to the general MFJ civil/criminal enforcement mechanisms.

See Order at 3-4.

IV. CONCLUSIONS

The Court appears to be less strict in its analysis of proposed BOC acquisitions involving international communications facilities than in cases that would create a significant BOC involvement in the domestic interexchange industry. However, the competitive analysis contained in the Memorandum would not automatically support a BOC's acquisition of a 10% interest in PAS.

The percentage of PAS' U.S.-related revenue vis-a-vis the entire PAS system presumably is greater that the 3% that TCNZ derives from N.Z./U.S. traffic. The limitation on TCNZ owning earth stations in the U.S. could pose serious problems for PAS, and the prohibitions against interconnection and joint marketing in the U.S. might make the proposition less attractive to a BOC.

Conversely, PAS' market share and competitive posture vis-a-vis Intelsat and Comsat should be viewed as minimizing any

potential for anticompetitive conduct. Another positive factor (at least in this context) would be the generic separate system license conditions, particularly the one relating to the public switched network, as these would prevent a BOC from engaging in anticompetitive conduct in a major segment of the international market.

On balance, it would seem that an equally convincing case for a BOC acquisition of an interest in PAS could be made, albeit perhaps not without some restrictions on, e.g., joint marketing and interconnection. However, it is unlikely that such a waiver could be obtained in less than two months, as was the case for the TCNZ acquisition. There, the international (i.e., MFJ-prohibited) component of the transaction was the "tail of the dog," which the BOCs were prepared to divest at great expense and disruption not only to themselves but, more importantly, to international network architecture, other carriers and end-users. See Memorandum at 5-6. A BOC acquisition of an interest in PAS would not involve these exigencies, and would present the issue of a direct BOC entry into the international market not as an ancillary activity. In short, the requisite waiver process could consume in excess of two years.

Enclosures

cc: Clay T. Whitehead

American Enterprise Institute for Public Policy Research

Prospectus

TELECOMMUNICATIONS DEREGULATION

May 1992

I. Introduction

The American Enterprise Institute is undertaking a research project on the deregulation of telecommunications markets. During the past decade, dramatic technological and economic changes have influenced telephony, broadcasting, cable television, and other communications industries. These changes raise important questions regarding federal regulation of telecommunications. Has regulation become a barrier to new competition in communications markets, and indeed has that become its principal (if unstated) function? Is regulation impairing the access of American consumers to new communications technologies? Is it inhibiting the dissemination of ideas and information through the electronic media? Is the current licensing regime for electromagnetic spectrum failing to allocate that resource to its highest-valued uses? Most important, if regulation of telecommunications markets is producing any of these deleterious effects, what are the costs and what can and should be done?

The AEI project aims to answer these questions. Through a series of detailed studies, it will attempt to document the costs and benefits of the existing regulation of telephony, broadcasting, cable television, and other media of electronic communication. The project's research will balance modern commercial realities on the one hand and the encouragement of competitive and technologically robust markets for communications services on the other. Its research output will be intended for use by scholars, business executives, jurists, and government officials in addressing regulatory controversies in the future.

1150 Seventeenth Street, N.W., Washington, D.C. 20036

II. Organization and Financing of the Project

The director of the AEI project is J. Gregory Sidak, resident scholar at AEI and a former official of the Federal Communications Commission. Working with AEI President Christopher DeMuth, Mr. Sidak is responsible for designing the project's research agenda, commissioning research, reviewing manuscript drafts, and organizing meetings and conferences at which manuscripts are presented and discussed. An advisory committee of knowledgeable business executives and academics is responsible for reviewing the research agenda, study prospectuses, and manuscript drafts, and for advising Messrs. Sidak and DeMuth on all aspects of the project's research organization.

The project is commissioning approximately a dozen studies, the first of which is to be completed in manuscript form by December 1992. For each study, a research conference will be held at AEI shortly after completion and distribution of the manuscript, bringing together business executives, jurists, federal and state government officials, and academics for an intensive discussion of the manuscript. Following the research conference, the manuscript will be revised and published as a monograph by the AEI Press and disseminated widely. After the last manuscript is published, the project's advisory committee will review the results of the entire project and decide on next steps.

The budget for this phase of the project, including research, writing, and publication of roughly a dozen studies and conference expenses, is $457,000. Project expenses will be accounted for separately, and periodic reports will be available to project donors.

III. Research Agenda

Some of the commissioned papers will analyze the effects of current telecommunications policies and the political and legal underpinnings of the current regulatory regime. Other papers will recommend how telecommunications regulation should be reformed and how, in practical terms, the recommended reforms can be achieved in the existing political and legal environment.

Papers have been or are being commissioned on the following topics. Possible investigators are listed for each topic. A scholar who has agreed to write a commissioned paper is indicated by an asterisk beside his name.

• **The Economic Performance of the American Telecommunications Industry.** Before deregulatory remedies can be prescribed for the American telecommunications industry, it is useful if not necessary to assess empirically the industry's performance with respect to output, prices, productivity, profits, investment, technological change, and other standard criteria. Such analysis will be provided for telephony, broadcasting, cable, cellular communications, and other significant segments of the telecommunications industry. This empirical study will lay a factual foundation for the common but often unsubstantiated assertion that regulation has impaired (and deregulation improved) economic performance in the telecommunications industry.A related empirical question concerns relative economic performance. How does the performance of the telecommunications industry compare to that of the computer industry, which has experienced rapid technological advances but less government regulation? How is this comparative performance likely to change with deregulation?

(Dr. Robert W. Crandall, Senior Fellow, The Brookings Institution; Dr. Kenneth S. Flamm, Senior Fellow, The Brookings Institution).

• **Spectrum Rights and Flexible Spectrum Use.** The FCC's inflexible zoning system for the spectrum impedes the deployment of this valuable resource to its highest-valued use. This inflexibility slows the introduction of new technologies and acts as a generic barrier to entry into any communications service requiring spectrum. Thus, it serves to create economic rents. In the typical case, a new service is allotted spectrum and individual firms are licensed. The FCC, however, then limits output of the new service in any one of several ways — by limiting the available spectrum, limiting the number of eligible licensees, following licensing procedures that delay the entry of new competitors, or "freezing" the grant of new licenses in order to stockpile spectrum for some as-yet unavailable technology. A new technology then emerges that competes with the service for which the original FCC regulation created economic rents; the new technology may even render the original spectrum use obsolete. The FCC, however, declines to reallocate the spectrum to more highly valued uses and, more likely, seeks to perpetuate the generation of

economic rents by expanding its jurisdiction over competing activities that are not otherwise subject to the Communications Act.

How large are the social costs of the FCC's scheme of "allocation," "allotment," and "assignment"? For example, how much more would spectrum assigned for a UHF television station in Los Angeles be worth if it could be used instead for cellular telephone service? How much did consumers lose from the protracted process used to allocate and license spectrum for cellular telephone service? How can spectrum flexibility feasibly be accomplished? How should spectrum rights be defined? When and how should spectrum be shared among several different uses? What lessons can be drawn from New Zealand's recent experience of auctioning spectrum rights? What legal, economic, engineering, and political modifications (if any) would be necessary to implement that model in the United States?

(Dr. Charles Jackson*, Vice President, National Economic Research Associates).

• **Spectrum "Scarcity," Government Regulation of "Diversity of Expression," and the First Amendment.** Many FCC regulations concerning industry structure, and even some regulations of the content of programming, are justified on the premise that the electromagnetic spectrum is "scarce." Lawyers and economists have long criticized the scarcity rationale, which was embraced by the Supreme Court in 1969 and again in 1990. How scarce is spectrum now? How scarce would it be under a more flexible regime of spectrum use, especially one that required a periodic user fee or rental payment that reflected the resource's opportunity cost? To what extent do existing and future technologies (such as fiber-optic cable and digital compression) make spectrum abundant rather than scarce?

Similarly, many FCC regulations, relying on the spectrum scarcity rationale, purport to advance the goal of achieving "diversity of expression." What is meant by "diversity of expression"? By what criteria can we identify the optimal amount of diversity of expression? Is the concept too vague and ambiguous to permit a principled set of regulations to be built upon it? Do the Communications Act and the First Amendment even permit the FCC to regulate "diversity of expression"?

Finally, many of the ongoing regulatory obligations of broadcasters, such as providing programming demonstrably of interest to one's community, are justified on the rationale that the licensee incurs a "public trusteeship" in return for receiving without charge the use of spectrum owned by the government.

What are the precise contours of this "trusteeship" and does it have any basis in the Communications Act? Is it something different from the "public interest, necessity, and convenience," which is addressed in various parts of the Communications Act?

The foregoing questions have significance beyond broadcasting. Proposals to regulate competing media of electronic communications often are couched in terms of the operator or licensee being a "public trustee." Similarly, regulatory barriers to competition in telecommunications markets other than broadcasting often are defended on the grounds that they promote "diversity of expression" or that the spectrum is scarce.

(L.A. Scot Powe*, Anne Green Regents Chair, Professor of Law, and Professor of Government, University of Texas; and Thomas G. Krattenmaker*, Professor of Law, Georgetown University).

• **Regulatory Barriers to Competition in Telecommunications.** The FCC, Congress, and the courts have imposed numerous regulatory barriers to competition in telecommunications markets. These barriers include the FCC's cross ownership rules prohibiting newspaper ownership of television and radio stations in certain markets; the statutory prohibition on telephone company entry into cable television; the regulatory barrier to television network ownership of cable television systems; the foreign ownership restrictions in the Communications Act; the "Finsyn" rules restricting television network entry into program production and ownership; regulations that limit the horizontal scale of a television or radio broadcasting firm (and thus limit its ability to enter new markets without divesting itself of existing stations); the decision to license only two cellular telephone firms per metropolitan market; and the line of business restrictions imposed on the seven Regional Bell Operating Companies (RBOCs) by the Modified Final Judgment (MFJ).

These barriers to competition raise a number of legal questions. Foremost among these is why the FCC regulates industry structure under the Communications Act far more restrictively than the federal courts do in their interpretation of the federal antitrust laws. Why does the FCC not apply the same consumer welfare standard that the Antitrust Division does? Are barriers to competition imposed by the FCC arbitrary and capricious? Certain constitutional questions also arise. Do regulatory barriers to entry into telecommunications markets violate the excluded firms' rights to freedom of speech? Is there a less restrictive regulatory mechanism than the MFJ for guarding against the perceived risk of cross subsidization or predation by an RBOC? Do the foreign

ownership restrictions violate the equal protection clause of the Fourteenth Amendment? Does the MFJ unconstitutionally usurp the lawmaking power of Congress or the law enforcement power of the Executive, and could the Department of Justice unilaterally abandon the decree?

(J. Gregory Sidak*, Resident Scholar, American Enterprise Institute).

• **An Economic and Constitutional Analysis of Proposed Federal Legislation to Reregulate Cable Television.** Cable television was significantly deregulated through federal legislation in 1984. Proposed legislation in Congress, however, would reregulate cable television and permit rates to be set by local governments. Proponents of reregulation sometimes argue that cable rates have risen unreasonably since the 1984 Cable Act; on the other hand, a recent research paper by Robert Tollison and Robert Ekelund claims that the real price per channel of cable television declined between 1986 and 1991. Which claim finds greater support in the data?

Another provision of the proposed legislation would require a cable operator who produces its own programming to make such programming available, on terms set by regulators, to new competing technologies for delivery of video programming, such as direct broadcast satellite service. Still another provision would require cable operators to compensate television broadcasters for retransmission of their signals. Would this proposed legislation benefit or harm consumers? Would it violate the First Amendment? What revision of cable television regulation is justified, if any, and should it occur at the state or federal level?

(Matthew L. Spitzer*, William T. Dalessi Professor of Law, University of Southern California and Professor of Law and Social Science, California Institute of Technology).

• **An Assessment of "Price Caps" Regulation.** In the late 1980s, the FCC adopted "price caps" as a means for regulating rates for certain interstate telephone service. Has the price caps model improved economic performance? Has it increased the costs of regulatory compliance? How has it changed the strategic behavior of regulated firms? Should it be followed elsewhere?

(John C. Panzar*, Louis W. Menk Professor of Economics, Northwestern University; and Ronald R. Braeutigam*, Harvey Kapnick Professor of Business Institutions, Northwestern University).

• **Regulation of Local Telephone Service After the Entry of Competing Access Providers and Personal Communications Networks.** Local telephone service is currently regulated at the state level under a natural monopoly model. However, new technologies for wireless communications and the potential for competing firms to carry portions of local telephone traffic will subject (and in some cases already is subjecting) local telephone companies to competition. What regulatory regime is appropriate when such competition arises? Is partial or total deregulation of local telephone service feasible? If deregulation occurs, what antitrust standard should govern applications by competing access providers to the telephone company's local network?

If some form of rate regulation remains, what should its features be? Should price cap regulation not be used, given the existence of competition? Should the rate regulation rely on Ramsey pricing and stand-alone costing, as in ICC regulation of rates charged captive shippers?

(William J. Baumol*, Joseph Douglas Green 1895 Professor of Economics, Princeton University and Professor of Economics and Director, C.V. Starr Center for Applied Economics, New York University).

• **The Optimal Regulatory Structure for Broadband Communications Networks.** The merging of computer, telephony networking, and fiber optic technologies holds the potential to revolutionize communications through broadband communications networks and render obsolete the current delivery modes of print, broadcasting, cable, and telephone. If and when this breakthrough occurs, what regulatory structure will be appropriate? Will antitrust enforcement suffice to ensure that there is competition in the market for communications services? What implications will such networks have for the rights of freedom of speech and of privacy?

(Marvin A. Sirbu*, Professor of Engineering and Public Policy, Professor of Industrial Administration, and Chairman of the Information Networking Institute, Carnegie Mellon University).

• **Deregulation and the Role of Government in Setting Standards and Directing Research and Development in Telecommunications.** How does deregulation affect the appropriate roles of the United States government and of international organizations in setting standards and directing investment in R&D in telecommunications? What are the benefits and costs of such government involvement? Empirically, has government standard setting in the United States with respect to color television, the NTSC television broadcast standard, and other services benefited consumers by reducing the costs to

private parties of reaching agreement? Or has it harmed consumers by suppressing competing standards that could be cheaper or more productive? What are likely to be the effects for consumers of the current efforts by the FCC and interested industry groups to set a standard for high definition television? Are similar or different conclusions warranted in the cases of the Integrated Services Digital Network and Open Network Architecture?

What role should the federal government play in directing or subsidizing research and development in telecommunications? What empirical evidence is there of the benefits and costs of such government involvement?

(Dr. Stanley M. Besen*, Senior Economist, The RAND Corporation).

• **Increasing Competition in International Telecommunications Facilities.** How are deregulation and new technologies affecting the demand in the United States for access to satellites and other international telecommunications facilities? To what extent will transoceanic fiber optic cables allow bypass of satellites? How will such bypass affect the routing, pricing, and volume of international calls? What responses are likely from COMSAT and INTELSAT? What regulatory prescriptions are appropriate for the FCC, the State Department, the Justice Department, and other agencies?

(Dr. Leland L. Johnson*, Senior Economist, The RAND Corporation).

• **International Trade and Investment in Telecommunications Services.** How are deregulation of telecommunications in the United States and privatization of telecommunications in other nations (such as the United Kingdom and Germany, as well as many less developed countries such as Mexico and Jamaica) affecting international trade and investment in telecommunications services? To what extent do these developments permit American RBOCs and other firms to compete directly with foreign carriers in non-host country markets. Do American telecommunication regulations or trade policies, including the Modified Final Judgment, impede the global competitiveness of American firms in the market for transmission and switching of voice and data? If so, what regulatory reforms are appropriate? To what extent do foreign regulations or international trade agreements impede such competitive opportunities for American telecommunications firms? What should American trade policy be with respect to deregulation and privatization of foreign telecommunications markets?

In a related vein, to what extent does American investment in telecommunication infrastructure abroad result from foreign countries having regulatory policies (on pricing or depreciation, for example) that are more hospitable than analogous policies in the United States? To what extent is American foreign investment in telecommunications displacing American domestic investment in telecommunications? Is American foreign investment producing telecommunications infrastructures abroad (for example, in Mexico, Singapore, Venezuela, New Zealand, Greece, and Hungary) that are superior to the telecommunications infrastructure in the United States? If so, what are the consequences for the international competitiveness of the American firms generally? What policy prescriptions are appropriate?

(Ingo Vogelsang, Professor of Economics, Boston University).

• **Federalism and the Regulation of Telecommunications.** In telecommunications regulation there are conflicts in policies between federal and state governments and among state governments. One example is the disparate manner in which states permit telephone companies to depreciate their assets. Is there any correspondence in telecommunications policy between natural technical separations of communications businesses and the jurisdictional boundaries of political units within the federal system? What do the data on local service prices and performance by state imply about the meaning and extent of the "laboratory of the states" rationale for a federal regulatory structure? What are the costs and benefits of the existing structures of regulatory jurisdiction and how might the jurisdictional divisions be improved?

(Roger G. Noll*, Morris M. Doyle Centennial Professor in Public Policy. Stanford University).

• **Deregulation and Corporate Governance in Telecommunications.** The economic literature on agency costs presumes that the interests of managers are aligned with those of shareholders by the force of product market competition, competition in the market for managerial labor, incentive compensation plans, endogenous ownership structures, monitoring by outside directors, hostile takeovers, and proxy contests. Deregulation can increase the consequences of managerial decisions for the value of firms in a regulated industry—either by increasing competition or by revealing inefficiencies in firm organization under regulation. Recent research by Kenneth Lehn and others has found that, of all of the assets in the airline industry in 1978 (when the Airline Deregulation Act was passed), only 10 percent were held by firms that did not subsequently file for Chapter 11 or become a takeover target. Lehn

finds that the concentration of equity ownership structures in airlines has increased since 1978, a result consistent with his hypothesis that concentrated ownership structures evolve to mitigate new managerial incentive problems; similarly, the sensitivity of the pay of airline executives to changes in shareholder value increased significantly after deregulation.

Does the partial deregulation of telecommunications since the late 1970s support similar empirical results? The creation of the seven RBOCs under the MFJ offers one test, although the degree to which that action constituted deregulation is debatable. Clearer deregulatory events include the FCC's adoption of price cap regulation; its relaxation of the Rule of 7 to the Rule of 12 (and, soon, a Rule of 30 for radio and a Rule of 24 for television) regarding the horizontal scale of television and radio station ownership; the 1984 Cable Act; and increased competition (particularly after the MFJ) among manufacturers of customer premise equipment. What is the likely effect of greater deregulation (such as elimination of cross-ownership and line-of-business restrictions) on corporate governance in the telecommunications industry? To the extent that deregulation might introduce instability in the market for corporate control, does that expectation suggest hypotheses, from the perspective of the economic theory of regulation, for the relatively slow pace at which deregulation has occurred in telecommunications?

(Kenneth M. Lehn*, Professor of Business Administration and Financial Economics, Katz Graduate School of Business, University of Pittsburgh; and J. Gregory Sidak*, Resident Scholar, American Enterprise Institute).

IV. Possible Advisory Committee Members

Persons well-suited to serve on the advisory committee for this project, or to comment on the foregoing papers, include Elizabeth Bailey (Wharton School, University of Pennsylvania); William Baxter (Stanford Law School); Cynthia Beltz (American Enterprise Institute); Jonathan Blake (Covington & Burling); Robert Bork (American Enterprise Institute); Gerald Brock (George Washington University); Dennis Carlton (University of Chicago Business School); Thomas Casey (Skadden Arps Slate Meagher & Flom); Linda Cohen (University of California, Irvine); James Dertouzos (RAND Corporation); Donald Dunn (Stanford University); Jonathan Emord (Institute for Justice); Joseph Farrell (University of California, Berkeley); Gerald Faulhaber (Wharton School, University of Pennsylvania); Mark Fowler (Latham &

Watkins; former FCC Chairman); Henry Geller (Center for Public Policy Research); Douglas Ginsburg (United States Court of Appeals for the District of Columbia Circuit); Shane Greenstein (University of Illinois); Allen Hammond (New York Law School); John Haring (National Economic Research Associates); Dale Hatfield (Hatfield & Associates); Jerry Hausman (Massachusetts Institute of Technology); Thomas Hazlett (University of California, Davis and FCC); Peter Huber (Manhattan Institute); Mark Isaac (University of Arizona); Paul Joskow (Massachusetts Institute of Technology); Martin Koschat (Yale School of Organization and Management); Benjamin Klein (University of California, Los Angeles); Joseph Kraemer (Deloitte & Touche); Friedrich Kubler (University of Pennsylvania Law School); Warren G. Lavey (Skadden, Arps, Slate, Meagher & Flom); Stan Liebowitz (University of Texas at Dallas); Abbott Lipsky, Jr. (King & Spalding); Mark Mabell (Merrill Lynch); Paul MacAvoy (Yale School of Organization and Management); William Mayton (Emory University Law School); Fred McChesney (Emory University Law School); Michael McConnell (University of Chicago Law School); James C. Miller III (Citizens for a Sound Economy); Bridger Mitchell (RAND Corporation); Jurgen Mueller (University of Toronto); Eli Noam (Columbia University); Bruce Owen (Economists Inc.); Dennis Patrick (Time-Warner; former FCC Chairman); Daniel Polsby (Northwestern University Law School); Richard Posner (United States Court of Appeals for the Seventh Circuit); Stuart Robinowitz (Paul, Weiss, Rifkin, Wharton & Garrison); Glen Robinson (University of Virginia School of Law); James Rosse (Freedom Newspapers); Garth Saloner (Stanford Business School); Richard Schmalensee (Massachusetts Institute of Technology); Carl Shapiro (University of California, Berkeley); Roger Sherman (University of Virginia); William Shew (Putnam Hayes & Bartlett); Harry Shooshan (National Economic Research Associates); Susan Smart (University of Indiana); Pablo Spiller (University of Illinois and University of California, Berkeley); P. Srinagesh (Bell Communications Research); Irwin Stelzer (American Enterprise Institute); John Thorne (Bell Atlantic); Daniel Troy (Wiley, Rein & Fielding); Ingo Vogelsang (Boston University); John Vickers (All Souls College, University of Oxford); David Waterman (Annenberg School, University of Southern California); Steven Wildman (Northwestern University); Richard Wiley (Wiley, Rein & Fielding; former FCC Chairman); Robert Willig (Woodrow Wilson School, Princeton University); Edward Zajac (University of Arizona); Mark Zupan (University of Southern California Business School).

LAW OFFICES
GOLDBERG & SPECTOR
1229 NINETEENTH STREET, N.W.
WASHINGTON, D.C. 20036

HENRY GOLDBERG
PHILLIP L. SPECTOR
JEFFREY H. OLSON
JOSEPH A. GODLES
JONATHAN L. WIENER
HENRIETTA WRIGHT

THOMAS G. GHERARDI, P.C.
COUNSEL

(202) 429-4900
TELECOPIER:
(202) 429-4912
TELEX:
892320

MEMORANDUM

TO: Rene ANSELMO

cc: F. LANDMAN / C. WHITEHEAD

FROM: HENRY GOLDBERG

RE: DOD & commercial satellites

DATE: June 9, 1992

The attached GAO report is interesting from a number of viewpoints, not the least of which is the reference to separate system policies on p. 9.

It also looks like we should step up our marketing to the DOD agencies. Maybe DOD could be an anchor tenant.

Attachment

GAO
United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

B-248740.1

May 22, 1992

The Honorable John P. Murtha
Chairman, Subcommittee on Defense
Committee on Appropriations
House of Representatives

Dear Mr. Chairman:

As you requested, we are examining various aspects of using commercial communication satellites as replacements or supplements for military communication satellites, with the objective of reducing costs.

The enclosed statement discusses DOD's expectations regarding satellite communication requirements and increased use of commercial communication satellites, and some potential problems associated with alternative approaches to satisfying the requirements.

We plan to provide you with a detailed assessment of alternatives by the fiscal year 1994 budget cycle.

Please call me on 202-275-4841 if you or your staff have any questions about this statement. Major contributors were Homer H. Thomson, Assistant Director and Pierre F. Crosetto, Evaluator-in-Charge.

Sincerely yours,

Louis J. Rodrigues

Louis J. Rodrigues
Director, Command, Control, Communications,
and Intelligence Issues

United States General Accounting Office

GAO

Testimony

Before the Subcommittee on Defense, Committee on Appropriations, House of Representatives

May 22, 1992

MILITARY SATELLITE COMMUNICATIONS

Potential for Greater Use of Commercial Satellite Capabilities

Statement for the Record of Louis J. Rodrigues, Director, Command, Control, Communications, and Intelligence Issues, National Security and International Affairs Division

GAO/T-NSIAD-92-39

Mr. Chairman and Members of the Subcommittee:

I am pleased to provide this statement discussing the potential for greater use of commercial communication satellite capabilities to satisfy Department of Defense (DOD) general purpose communication requirements. In contrast to critical communications for commanding and controlling forces, which must be provided by unique military satellites, general purpose satellite communications can be provided by commercial systems.

At the request of this Subcommittee, we are reviewing various aspects of using commercial communication satellites as replacements or supplements for military communication satellites, with the objective of reducing costs. Although our review is not yet completed, my statement briefly discusses our work to date on DOD's expectations regarding satellite communication requirements and increased use of commercial communication satellites, and some potential problems associated with alternative approaches to satisfying the requirements. We plan to provide you with a detailed assessment of alternatives early next year for the fiscal year 1994 budget cycle.

RESULTS IN BRIEF

DOD expects its requirements for general purpose satellite communications to increase substantially during the next several years and to exceed the existing and planned capacity of military communication satellite systems. In the past, DOD has leased

individual circuits on commercial communication satellites, but this is a costly approach. There are less costly alternatives that involve consolidating requirements and acquiring greater communications capacity. A specific alternative DOD is considering involves creating private networks by acquiring and managing commercial communication satellite assets. However, this alternative may be flawed because of restrictions associated with the government operating in nongovernment radio frequency bands. An alternative we explored involves a commercially equivalent military satellite system that would operate in a government radio frequency band. However, additional study of a potential impediment is needed.

There are also other alternatives that need to be analyzed, and DOD intends to hire several contractors to assist in the analyses during the next several months. Until this is done, and our review is completed, we would caution against DOD making any long-term commitments toward satisfying the expected increased requirements in general purpose satellite communications.

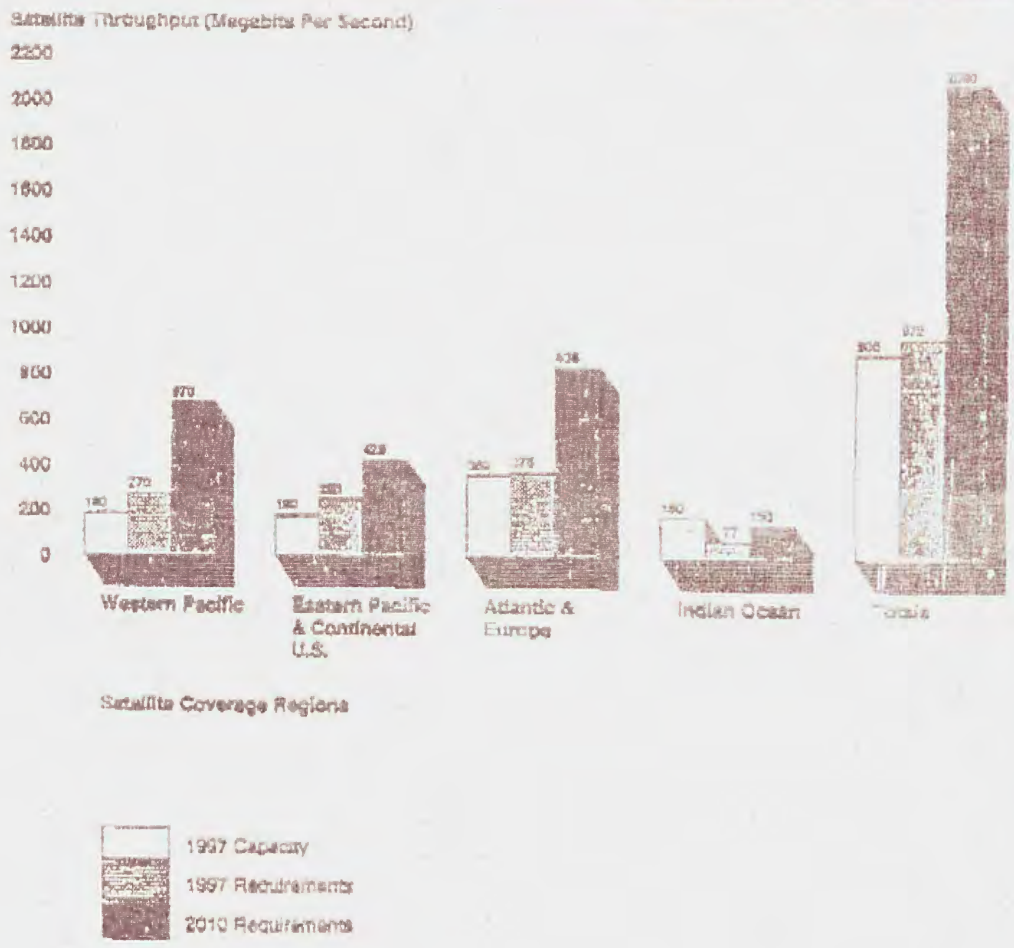
DOD EXPECTS GENERAL PURPOSE SATELLITE COMMUNICATION REQUIREMENTS TO INCREASE

An October 1991 DOD military satellite communications architecture study identified two categories of satellite communication requirements--core and general purpose. Core requirements are associated with commanding and controlling combatant forces in

environments where survivable communications are essential. General purpose requirements, which currently constitute over 80 percent of DOD's communication satellite requirements, involve less critical communications where urgency and survivability are not a concern.

According to the study, general purpose communication satellite requirements are estimated to far exceed the existing and planned capacity of military communication satellite systems. Figure 1.1 shows the planned capacity and requirements in four satellite coverage regions, measured in terms of satellite throughput--the number of bits of information that can be passed through the satellites each second. The shortfall in capacity is estimated to be about 175 million bits per second and 1.2 billion bits per second by 1997 and 2010, respectively, in three of the four regions. According to a DOD representative, this shortfall represents unsatisfied general purpose requirements. Excess capacity in the Indian Ocean region has the effect of making the total shortfall appear less; however, capacity in that region would not be available to offset shortfalls in the other regions.

Figure 1.1: DOD Communication Satellite Capacity and Requirements.



DOD EXPECTS TO INCREASE ITS USE OF COMMERCIAL SATELLITES

DOD believes that commercial communication satellites can satisfy general purpose communication requirements because they offer significant coverage, capacity, and flexibility at potentially lower costs. Historically, DOD's use of these satellites has been through leasing individual circuits; however, this apprcach can be costly. The Defense Information Service Agency recommended creating private networks as a cost-effective alternative, but this alternative may be flawed because of restrictions associated with

the government operating in nongovernment radio frequency bands. A commercially equivalent military satellite using government radio frequencies may offer cost-savings, but a potential impediment needs further examination.

Total Current Usage Not Readily Identifiable and Leasing Costs Are Excessive

DOD currently leases numerous communication satellite circuits from commercial carriers, which are licensed by the Federal Communications Commission. This is done both centrally, through DOD's Defense Commercial Communication Office, and on an ad-hoc basis, by DOD activities requiring the services. The architecture study states that DOD currently spends about $160 million annually on central leasing--up to twice as much as it spent 5 to 7 years ago. The study also states that most commercial communication satellite services have been obtained on an ad-hoc basis, although the associated leasing costs were not readily available. Thus, DOD's total annual costs for leased communication satellite services are substantially higher than $160 million. The study recognizes that such ad hoc leasing reflects the lack of a coherent, consistent plan to obtain cost-efficient services.

Leasing communication satellite services on an individual circuit basis can be very costly. For example, the study states that it could cost as much as 25 times more to lease individual circuits equal to the nominal capacity of a single satellite transponder

than to lease the transponder itself. According to DOD, alternatives to leasing individual circuits include (1) better consolidation of current commercial circuit leases, (2) acquiring bulk capacity by leasing entire transponders, (3) incorporating military transponders on host commercial satellites, and (4) leasing or procuring whole satellites.

Private Network Approach
May Be Flawed

In describing the potential expanded role of commercial satellites for military communications, the Defense Information System Agency's primary recommendation was for DOD to acquire and manage commercial communication satellite assets as a permanent private system for fixed and mobile users. This means acquiring terminals and leasing transponder space from domestic and international communication satellite providers and creating private (dedicated) networks that would be operated and controlled by DOD personnel. However, this approach may be flawed because it would constitute the government using nongovernment radio frequencies without acquiring communication services through a commercially licensed carrier.

Within the United States, radio frequencies are divided into three categories--government, nongovernment, and shared. Government frequencies are assigned by the National Telecommunications and Information Agency, and nongovernment frequencies are assigned by

the Federal Communications Commission. If a federal government agency wants to use nongovernment frequencies without going through a commercial carrier, it could only be authorized to do so on an exception basis and (1) would have to be coordinated with the Federal Communications Commission and (2) could not cause harmful radio signal interference to nongovernment users. According to a National Telecommunications and Information Agency representative, such exceptions are usually granted only when there is no practical way to accomplish the mission in government frequencies. Also, the government would not have the same priority rights as it would when operating in government frequencies and would have to cease operations if signal transmissions resulted in interference to nongovernment communications.

As a matter of policy, the government relies heavily on commercial carriers for communication services. Such services are defined as all functions normally associated with providing communications, including design, engineering, system management and operation, maintenance, and logistical support. Under DOD's private network approach, it would be questionable whether operating and controlling the terminals and satellite payload networking with DOD personnel could be interpreted as acquiring communication services from commercial carriers. Instead, DOD would be operating independently in nongovernment frequencies that would be subject to the previously described restrictions.

The Congress provided DOD with $15 million for fiscal year 1992 to study ways of using commercial communication satellite capabilities. These funds resulted in a February 1992 request-for-proposals, and subsequent contractors' studies are expected to take 18 months. However, DOD specifically described the private network approach in its request. This may limit the contractors to proposals that are not feasible because of the radio frequency issue.

Commercially Equivalent Military Satellite System May Offer Cost-savings

An alternative that may offer cost-savings is a hypothetical, off-the-shelf, commercially equivalent, communication satellite system that would use government (military) radio frequencies and existing terminals. The emphasis would be on satellite throughput capacity, and the system would be very suitable for DOD's general purpose communication requirements.

Based on a contractor estimate, DOD could procure or lease commercially equivalent satellites at less cost and with greater throughput than satellites that are built to military specifications and contain special survivability features. The commercially equivalent satellites would not have special survivability features, but would offer other desirable features commonly found on military satellites such as steerable spot beam antennas and secure telemetry and payload control links.

Attachment I provides some additional information on such a satellite system and compares it to the Defense Satellite Communication System (DSCS) III--DOD's primary communications satellite system.

Notwithstanding the advantages of a commercially equivalent system, an impediment could be encountered. The Communications Satellite Act of 1962 provided for an international commercial communications satellite system that is, in effect, a monopoly. The act allows for the creation of additional systems only if required to meet unique governmental needs or if otherwise required in the national interest. This provision permits military satellite communication systems because of unique requirements. However, in the opinion of a National Telecommunications and Information Agency representative, a military satellite system for general purpose communications could raise a question because it would be providing the same services as the international system.

Despite this potential impediment, the monopolistic status of the international system has been changing. In 1984, Presidential Determination 85-2 stated that separate international communications satellite systems are required in the national interest. Although certain restrictions were imposed, the U.S. Secretaries of State and Commerce stated in 1991 that it is the goal of the executive branch to completely eliminate the restrictions by January 1997. When this happens, the question

about using military satellite systems for general purpose communications may no longer exist.

ATTACHMENT I

ATTACHMENT I

SELECTED COMPARISON BETWEEN THE DEFENSE SATELLITE COMMUNICATIONS SYSTEM AND A COMMERCIALLY EQUIVALENT SYSTEM

Features	DSCS III	Commercially equivalent
Approximate unit production costs:	(millions in 1992)	(millions in 1992)
Satellite	$ 122	$ 70
Launch vehicle	54	60
Totals	$ 176	$ 130
Launch vehicle	Atlas II	Atlas IIA
Orbital position	Geostationary	Geostationary
Design life	10 years	10 years
Payload:	6 Channels	6 Channels
Effective bandwidth	500 Megahertz	750 Megahertz
Throughput	125 Megabits/second	300 Megabits/second
Power	120 Watts	240 Watts
Antenna configuration:		
Transmit	1 Steerable spot 2 Multi beam 2 Earth coverage 2 Ultra high frequency	4 Steerable spot 2 Fixed area 1 Earth coverage 0 Ultra high frequency
Receive	0 Steerable spot 1 Multi beam 2 Earth coverage 2 Ultra high frequency	4 Steerable spot 2 Fixed area 1 Earth coverage 0 Ultra high frequency
Radio band	Super high frequency (X-band)	Super high frequency (X-band)
Terminals	DSCS	DSCS
Coverage	Global over equator	Global over equator

(395170)

TELEPHONE:(03)3475-1800
FACSIMILE:(03)3475-1830

YAGI SŌGŌ LAW OFFICES
NEW AOYAMA BUILDING
1-1, MINAMI-AOYAMA 1-CHOME
MINATO-KU, TOKYO 107, JAPAN

TELEX: 02422562
CABLE: YAGISOGO

March 14, 1991

Mr. Clay T. Whitehead
President
Clay Whitehead Associates
1320 Old Chain Bridge Road
McLean, Virginia 22101
U.S.A.

Mr. Whitehead:

For your reference, we have enclosed one copy each of the following Japanese newspaper articles:

1. An article from the February 3, 1991 edition of "The Nihon Keizai Shimbun" ("The Japan Economic Journal") which was translated by a member of our staff;

2. An article from January 25, 1991 edition of "The Nikkei Sangyo Shimbun" which was also translated by a member of our staff.

3. A revised copy of the article from the January 6, 1991 edition of "The Nihon Keizai Shimbun" which we presented to you and Mr. Frederick A. Landman during our January 20, 1991 dinner meeting in Tokyo, Japan.

We hope that PanAmSat will find this information to be useful.

If you require any additional information, please do not hesitate to contact us.

With best wishes,

Sincerely,

3/27/91
fit PanAmSat articles

Yasuji Yagi

YY:MK

Encls.

cc (bcf)
Rene Anselmo
Fred Landman

TELEPHONE:(03)3475-1800
FACSIMILE:(03)3475-1830

YAGI SŌGŌ LAW OFFICES
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If you require any additional information, please do not hesitate to contact us.

With best wishes,

Sincerely,

Yasuji Yagi

YY:MK

Encls.

The Nihon Keizai Shimbun February 3, 1991
(Translation)

"A U.S. satellite company requested Japanese companies' investment for their plan of launching three satellites by 1994."

A U.S. private satellite company, Alpha Lyracom/Pan American Satellite (PanAmSat) has established its intent to launch three separate satellites over the Pacific Ocean, the Atlantic Ocean and the Indian Ocean. They are now requesting Japanese companies such as Sogo Shosha (a large trading firm) to invest in this new business. Total operating funds required for this new project would be four hundred seventy eight million dollars ($478,000,000), which is approximately sixty two billion yen. Until now, International Telecommunication Satellite (INTELSAT) has monopolized the business for international telecommunications traffic between continents, however, the U.S. Government has recently expressed strong support for private enterprises to enter into the international satellite communications business in order to create more competition; therefore, Japanese companies may be requested by the Japanese Government to respond accordingly [That is, participate in joint U.S. - Japan international telecommunication ventures].

The top management of PanAmSat recently came to Tokyo and presented its plan to approximately ten Japanese companies. According to the plan, they are going to launch three satellites loaded with about thirty transponders over the Pacific Ocean, the Atlantic Ocean and the Indian Ocean, respectively. By this action, an international telecommunications network which covers most of the world, including Japan, Asia, North and South America, Europe, Africa and the Middle East, would be created. PanAmSat's management expects that there will be a large demand for its satellite services, which includes televideo and exclusive circuit availability, by large international corporations. They are planning to use satellites manufactured by either General Electric or Hughes Aircraft Corporation.

The three satellites would be named "PAS-2", "PAS-3" and "PAS-4". PanAmSat's goal is to obtain investors from the U.S., Japan and Europe in order to establish a partnership corporation. They are planning to fund the venture on a 50/50 - debt/equity basis, and are proposing that one quarter of the equity half, fifty five million dollars ($55,000,000) be invested by Japanese companies.

PanAmSat is a privately held venture [capital] company which in 1988 launched its first international telecommunications satellite called "PAS-1" which provides service for North and Latin America. Japanese companies contacted by the President of PanAmSat as potential investors in the expansion of its satellite business have not yet given a reply, saying that they need to conduct further investigations to determine demand for such satellite services.

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The Nikkei Sangyo Shimbun January 25, 1991
(Translation)

"Japanese firms have complaints against the U.S. taking initiative in Pan-pacific private satellites plan."

U.S. private satellite companies have contacted some Japanese companies such as Sogo Shosha (a large trading firm) to request the cooperation of Japanese companies for their plan to create a private satellite network covering the Pan-pacific area. In addition, the U.S. government recently asked the Japanese government to open the Japanese market to private U.S. satellite companies. Japanese trading firms, which consider the satellite business as one of their most important businesses, are very much interested in the Pan-pacific satellite plan. However, it appears that the same pattern as usual is being followed, that is, Japan will only take action when pushed by strong pressure from the U.S., thus these trading firms fear that the U.S. might take the initiative in the private satellite communications business.

Two private U.S. satellite companies, Orion Network Systems (Orion) and Pan American Satellite (PanAmSat) are requesting Japanese companies to invest in their new businesses or to sell satellite circuit capacity for them. In addition to its Pan-pacific satellite, Orion has another plan to launch a satellite covering the area of Europe and the U.S., and PanAmSat already has a satellite that provides service for North America, Latin America and part of Europe.

Both the Orion and PanAmSat ventures have strong political power in spite of their weakness in business. In the past, International Telecommunication Satellite (INTELSAT) had monopolized the market for international telecommunications traffic between countries; Orion and PanAmSat were the first companies to enter into a market monopolized by INTELSAT. This feat was accomplished when Orion and PanAmSat used their political power to coerce the U.S. government to open the international satellite communications business to private competition.

As anticipated, the above-mentioned American satellite companies, are also using the U.S. government' pressure for the Pan-pacific satellite business. According to sources close to the U.S. government's communication office [FCC], it proposed that the Japanese government: 1. give administrative guidance to big circuit users such as KDD to use private U.S. satellite systems. 2. accept the establishment of a fourth international communications company in Japan which would be given a Class One Communications Business license for the sale of satellite circuits in Japan.

The Ministry of Posts and Telecommunications has not yet expressed any opposition against the U.S. government request, but some people suspect as there was trade friction in the satellite business in the past, the Ministry will accept the U.S. proposal in order to avoid any additional trade friction.

People with knowledge about the satellite business here in Japan, such as executives with the big trading firms, have standing complaints against the U.S. government's movement to force open the satellite market in Japan. They are claiming that Orion and PanAmSat will not realize their respective Pan-pacific satellite plans without Japanese investment; moreover, they are confident that they have an advantage in developing satellite communications demand in Japan and Asia. They say if there is enough demand in the future, they can take the initiative for any Pan-pacific satellite business without any assistance from U.S. companies.

The weak point of those Japanese firms is that they lack political power. The Ministry of Posts and Telecommunications would have to request the assistance of other Asian governments should Japanese companies wish to start their own Pan-pacific satellite businesses; however, if they [Japanese Ministry of Posts and Telecommunications] rely on U.S. government pressure to open the Japanese market, they do not need to bother themselves with coordinating their plans with other Asian countries; additionally, the U.S. government will be grateful that Japan opened up its satellite market. Therefore, the Japanese government may believe that by accepting the U.S. demand that it open its satellite market to competition, it may also be a positive development for the Japanese government [in regard to its trade relations with the U.S. government].

Strong U.S. pressure on the Japanese government has resulted in the decision by the Ministry of Posts and Telecommunications to remove its previous obstacles to the development of a Japanese satellite business. Thus, U.S. government pressure is sometimes "a magic lamp of luck" for Japanese companies, but should the new business move forward in Japan without "the lamp of luck", Japanese firms would be "small fish" in the international satellite communications business compared to U.S. firms, and this is a business which is expected to be a very large market in near future.

The Nihon Keizai Shimbun (Translation) January 6, 1991

"The U.S. Federal Communications Commission (FCC) asked the Japanese government to use a U.S. telecommunication satellite."

Washington, January 5, 1991

According to sources close to the U.S. government, the FCC asked the Japanese government to switch from the International Telecommunication Satellite (INTELSAT) to another U.S. satellite and proposed that an additional international communications company be established in Japan. Two U.S. private satellite companies, Orion Network Systems (Orion) and Pan American Satellite (PanAmSat), are planning to launch pan-Pacific satellites which would cover the area of Japan, the U.S. and Asia, and they are proposing to work with Japanese companies. They claim the advantage of using their satellite would be that the rate charged for satellite communications will be drastically lowered if such companies as Kokusai Denshin Denwa Co.(KDD) would switch to their systems. Since the U.S. government has taken a very firm position that the Japanese market must be opened to U.S. satellite companies, this trade policy stance may become a new source of friction in the communications business between Japan and the United States.

The contents of the proposal from the U.S. FCC to the Japanese government is as follows: 1. Japanese government should give administrative guidance to big circuit users such as KDD to change from INTELSAT to a pan-Pacific satellite launched by a private U.S. satellite company such as Orion or PanAmSat. 2. Japanese government should accept, as early as possible, the establishment of another international communication company in Japan in addition to KDD and the Second KDD, etc.

The plan made by Orion through their related company of Asia Pacific Space and Communication (APSC) is to launch a satellite loaded with about 20 Ku band transponders within the first half of 1990's. They expect demand for VSAT to exist among companies which rely on transmitting large amounts of information. The total business funds required would be approximately three to four hundred million dollars and Orion requested that any participating Japanese trading firms or electronic manufacturers invest two hundred million dollars and sell a certain amount of circuit volume. They visited the Ministry of Posts and Telecommunications in Tokyo several times to request their cooperation for opening the Japanese market. Orion expects approximately ten Japanese companies to join the venture, and will also try to attract companies from Thailand and Singapore to invest in their business.

PanAmSat, whose telecommunication satellite mainly covers the area of North and Latin America, also offered a satellite plan covering the pan-Pacific area to some Japanese companies. The chief executives will come to Japan in January to announce and explain details of their plan and request that Japanese companies join their new business venture.

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日本経済新聞　1991年(平成3年)2月3日(日曜日)

日本に出資要請
米社、94年までの3基分
衛星打ち上げ通信

米国の民間衛星通信会社、アルファ・リラコム社（略称パンナムサット）が九四年までに太平洋、大西洋、インド洋に合計三基の通信衛星を打ち上げる構想を固め、大手商社など日本企業に出資を要請してきた。総事業費は四億七千八百万㌦（約六百二十億円）。従来、大陸間の国際衛星事業は国際電気通信衛星機構（インテルサット）が独占してきたが、米国政府が民間企業の進出を強力に支援し始めており、日本企業としても同分野への対応を迫られそうだ。

パンナムサットの首脳がこのほど来日、日本企業十社程度に構想を提示した。それによると、三十本程度のトランスポンダー（中継中継器）を搭載した衛星を太平洋、大西洋、インド洋にそれぞれ一基を打ち上げる。これにより、日本やアジア、北米、南米、欧州、アフリカ、中近東など世界を網羅する衛星通信網が完成する。設備建造や企業の専用回線需要などを狙っており、衛星は米ゼネラル・エレクトリック（GE）、ヒューズ製が候補に挙がっている。

「PAS-2」「同-3」「同-4」と名付けた三基の衛星打ち上げ事業を日米欧などから出資者を募り、パートナーシップ（共同事業体）方式で推進する。総事業費のうち、ほぼ半分の二億二千万㌦を出資金として集める考えで、日本に対してはその四分の一にあたる五千五百万㌦の出資を求めている。

パンナムサットは八八年、北米と中南米、一部欧州を結ぶ民間で初めての国際通信衛星「PAS-1」の打ち上げに成功したベンチャー企業。日本企業側は「需要などを十分検討する必要がある」として、とりあえず態度を保留している。

日経産業新聞　1991年(平成3年)1月25日(金曜日)

米社が環太平洋民間通信衛星構想

主導権握られ、不満高まる

画・改田　昌直

米国の通信衛星企業が大手商社など日本企業に環太平洋を結ぶ民間版の通信衛星打ち上げ構想を打診、これを援護射撃するかのように米国政府も日本政府への働きかけを始めた。衛星事業に力を入れる大手商社としても環太平洋衛星には興味はつきない様子。しかし、米国の圧力に押し出されて動くというお決まりのパターンで進みかねない動きに、「このままではこの分野で完全に米国の主導権を握られてしまう」との不安も強まってきた。

日本に環太平洋衛星構想を持ちかけているのは欧米間衛星計画を推進中のオライオン・ネットワーク・システムズ社と北・中南米、一部欧州を結ぶ衛星を保有しているパンアメリカン・サテライト社などで、日本企業に事業への一部出資や回線販売での協力を求めている。

両社とも米国らしいベンチャービジネスで、企業力があるわけではないが、政治力に強みがあるのが特徴。もともと、こうした大陸間の衛星通信事業は国際電気通信衛星機構（インテルサット）が市場を独占してきたわけだが、米政府をたきつけてインテルサットの独占に風穴を開けたのがこの両社なのである。

当然、予想されたように環太平洋衛星でも米政府の圧力を活用し始めた。米政府の通信関係者によると、日本政府に対してKDDなどにオライオンなどの民間衛星の活用を促してほしいの日本での回線販売のために第一種通信事業者の免許を持つ四番目の国際通信会社の設立を認めてほしい――といった要望を出しているという。

郵政省は今のところ米社の計画に対する見方を示していないが、一部には「先の衛星をめぐる日米摩擦もあり、米側の意向に協力するのでは」との見方も出ている。

大手商社など日本の衛星関係者はこうした動きに不満を隠さない。というのも、米社側の構想にしても、日本企業の資金協力がなければ実現は容易でないし、日本やアジアでの衛星開拓ということではやはり自分たちの方が得意という自負があるからだ。「何も米国の力を借りなくても衛星があるなら自分たちで主導をとってもやれる」というわけだ。

しかし、日本企業にとっての最大のネックは政治力のなさ。郵政省とすれば、こうした環太平洋衛星を日本単独でやろうとすると他のアジア諸国の政府などからも協力を取りつけなければならないという難問もかぶることになってしまうが、米政府の圧力に乗るならこうした調整にわずらわされることもないし、米側に恩も売れる。となれば、米構想に乗った方が得策ということにもなりかねない。

永年、郵政省におあずけを食わされたサテライトジャパンも米政府の圧力でようやく動くことになった。日本企業にとって米政府の圧力というのは時には煩わしい「打ち出の小槌（こづち）」でもある。だが、その小槌がなければ新ビジネスが何に進まないとすれば、衛星拡大が見込まれる国際通信事業で日本企業は米国企業の「小判ザメ」に甘んじなければならないことになる。

（哲）

日本経済新聞　1991年(平成3年)1月6日(日曜日)

米衛星通信網 利用を

2社が打ち上げ構想 官民で日本に要請

【ワシントン五日＝松井記者】米政府が日本政府に対し、大口の国際通信について、現在利用している国際電気通信衛星機構（インテルサット）から米国の民間衛星通信網に切り替えるよう要望するとともに、日本国内に新たな国際通信会社を設立したいと打診したことが明らかになった。すでに米民間衛星通信会社のオライオン・ネットワークシステムズ、パンアメリカン・サテライト（略称パンナム・サット）社が日、米、アジアを結ぶ太平洋衛星打ち上げ構想を固め、日本企業への協力要請に動き始めている。国際電信電話（KDD）などが米衛星通信網を利用すれば、衛星通信の料金を大幅に引き下げることができるとしている。米側の狙いは広く、今後新たな日米通信摩擦の火種に発展する可能性もある。

米連邦通信委員会（FCC）などが日本側に伝えた要請の内容は、①現在、インテルサットを利用して日米間を結んでいる企業向けの大口専用回線をオライオンやパンナム・サットなどの米国の民間衛星通信会社が計画している太平洋衛星に切り替えるようKDDなどに指導すること②日本国内の顧客開拓の拠点として、KDDと第二KDDに続く四番目の国際通信会社の設立をできるだけ早く認めること――などとなっている。

オライオン社が関連会社のアジア・パシフィック・スペース・アンド・コミュニケーションズ（APSC）を通じて計画している構想はKuバンドのトランスポンダー（電波中継器）二十本程度を搭載した衛星を九〇年代前半をめどに打ち上げる。超小型地球局（VSAT）を使った企業間通信の需要を想定している。総事業費は三億数千万ドル、日本の商社や情報メーカー数社に当初資金として一社当たり二百万ドル程度の出資と一定量の回線販売での協力を求めている。郵政省にも数回訪問、商談に乗り出している。日本から十社程度の参加を期待しているほか、タイ、シンガポールなどでも商談を始めている模様。

北米・中南米間を中心にした通信衛星を保有する米パンナム・サットも太平洋を対象にした衛星構想を一部の日本企業に打診している。二月中にも同社首脳が来日して構想の詳細を説明、参加を募る予定という。

PanAmSat

By Facsimile
703 847-8804

September 22, 1993

Mr. Clay T. Whitehead
President
Clay Whitehead Associates
1320 Old Chain Bridge Road
McLean, Virginia 22101

Dear Mr. Whitehead:

Re: Antitrust Law Suit Comsat vs. PanAmSat

I believe that around the end of August I faxed you a request from our antitrust lawyer, Daniel R. Shulman, to the effect that COMSAT wished to depose you for two days sometime either in October or November of this year, depending on your availability. The process, of course, would take place in your area.

Would you please advise me what dates during that time frame would be convenient for you.

Sincerely,

Berta Escurra

PanAmSat, L.P. (Limited Partnership)
PanAmSat, Inc. (General Partner)
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WASHINGTON, D.C. 20036

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JONATHAN L. WIENER
HENRIETTA WRIGHT

THOMAS G. GHERARDI, P.C.
COUNSEL

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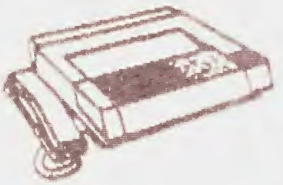
FAX Cover Sheet



PLEASE DELIVER THE FOLLOWING PAGE(S) DIRECTLY TO:

NAME Tom Whitehead

FROM Henry Goldberg

FAX NUMBER 703/847-8804

COMPANY

TOTAL PAGES (INCLUDING COVER LETTER) 1 DATE 4/10

COMMENTS:

Phone 011-352-717-251
Pierre Werner
Chairman
Societe Europeene Des Satellites
Chateau Betzdorf
L-6832
Betzdorf, Luxembourg
FAX: 011-352-717-25-2-27

IF YOU DO NOT RECEIVE ALL THE PAGES, PLEASE CALL BACK AS SOON AS POSSIBLE AT (202) 429-4900.

ALPHA LYRACOM
SPACE COMMUNICATIONS

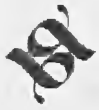
April 15, 1991

TO: Tom Whitehead

FROM: Doug Goldschmidt

RE: Thai Satellite Project

The Counselor to the Thai Minister of Communications told me that the Chinawat Computer Company has been awarded the concession for Thaisat. The head of the company is Police Lt.Col. Taksin Chinawat.



ALPHA LYRACOM
SPACE COMMUNICATIONS

April 9, 1991

TO: Tom Whitehead, Fred Landman, Andy Rush

FROM: Doug Goldschmidt

RE: Inexpensive Communications to Pacific Rim Nations
Revision 1

I. Telecommunications and Development

Repeated studies since the mid-1970's have demonstrated that the introduction of reliable communications not only works with other ongoing activities to promote economic development, but of itself, can stimulate development. These studies have shown that communications promotes greater efficiency in agriculture by accelerating access to fertilizer and pesticides, as well as by greatly improving the timing and efficiency of transportation; in industry by improving both access to inputs as well as with access to markets and to transportation; and particularly in the services industry, by providing the types of information required to provide services, like banking, in a timely manner. The studies have demonstrated strong economic results resulting from the introduction of communications both on the micro level, in terms of the profitability and efficiency of particular firms and industries, and on the macro level, in terms of overall GNP.

While the strong ties between communications and development are now acknowledged by agencies like the World Bank, investment in the necessary communications to promote development has been impeded by the historically high cost of thin route communications. Unlike the communications systems available to major urban centers, thin route communications systems are plagued by the loss of scale economies, with resulting higher per unit costs. Until recently most technologies failed to provide the cost necessary to justify thin route investments. However, with the development of thin route satellite communications, the cost equation has swung strongly in favor of thin route investments.

II. Satellites and Thin Route Communications in the Pacific

From their earliest days, satellites have been a means of providing inexpensive communications to areas isolated from "mainstream" communications. Early experiments with NASA's ATS-6 satellite in Alaska and India, the ATS-1 and ATS-3 in the South Pacific, and the Hermes in northern Canada, among others, all confirmed that satellites could offer an inexpensive means of connecting rural or isolated areas with economic and political centers, as well as with each other.

More recently, the Indonesian satellite system, Palapa, has been pioneering the integration of remote areas. The Palapa system connects dozens of islands and remote points into an integrated communications system which encompasses telephony, data networking, and television and radio broadcasting.

In Latin America Alpha Lyracom has been working with public and private companies to extend communicatinos to rural areas. In Honduras, for example, a rural telephone system is now being installed which will link thirty rural sites into the national telephone system. The system uses a transponder on PAS-1 and relatively inexpensive 3.7m earth stations at the rural locations. In Peru PAS-1 is being used to network video programming to the most rural villages, using earth stations as small as 2.4m in diameter, costing less than $1,000 each. And, Alpha Lyracom is now introducing both VSAT (very small aperture terminal) networks for data communications, and TeSAT (telephone small aperture terminals) networks in Latin America. Both of these systems utilize very small and inexpensive earth stations to provide a range of cost effective data and voice services to widely dispersed locations. Both Palapa and Alpha Lyracom have amply demonstrated that communications satellites can be applied effectively to solve the problem of communications isolation.

Key to the effectiveness of these satellite systems has been the introduction of ground technology which efficiently makes use of the satellites' advanced capabilities. Satellite earth stations for example, used to cost in excess of $100,000 for a single voice channel. Such stations can now be delivered in small quantities at less than $45,000 per earth station in C-band, and less than $18,000 per earth station in Ku-band. These prices are diminishing as greater integration is being achieved in earth station electronics, and as greater efficiencies are introduced into the station amplifiers.

In addition, new digital technologies permit the compression of multiple voice and data channels into a small amount of space segment, greatly economizing on the cost of space segment. For example, only five years ago a voice channel required a data rate of 64 kbps. It is now possible to send voice at 8 kbps.

Also, the introduction of time division multiple access (TDMA) has permitted the development of VSAT networks which make extremely efficient use of the space segment. And, new software permits the introduction of small scale demand assigned multiple access (DAMA) networks, formerly available only in very large satellite networks, permitting the dynamic assignment of space channels. Both TDMA and DAMA greatly reduce the cost of operating a satellite network.

III. Inadequacies of Existing Pacific Satellite Systems

Unfortunately, the opportunity to expand communications in the Pacific Rim has been impeded by the lack of adequate satellite capacity. While Palapa offers reasonably good coverage of the ASEAN region, it has never been fully utilized by the ASEAN nations for economic and political reasons. Similarly, the Aussat system has only been used in a fairly limited way to promote communications development in the Oceanic Region.

The one communications satellite system which has been commonly available, Intelsat, is poorly suited for extending remote communications in a cost effective manner. The Intelsat system, which is designed primarily for international communications applications, is optimized for communications among large, gateway earth stations. The small earth stations required for rural and thin route applications are both costly to purchase and to use with the Intelsat system.

IV. Alpha Lyracom and Pacific Satellite Services

Alpha Lyracom is distinguished from the other Asian systems by its design. PAS-3 has been designed specifically to offer regional and domestic communications services similar to what is provided in the United States. This means that power is focused onto specific areas and regions, permitting the use of the smallest and least expensive earth stations available in the market. Only a specialized carrier, like Alpha Lyracom, is capable of providing such a service.

Intelsat's interests are global and, even in cases where it has attempted to meet the requirements of a regional/domestic market, as it

has in Latin America, its power levels, designed around a compromise between international and regional service, are half or worse of what Alpha Lyracom's are.

Similarly, domestic systems, such as Palapa, are designed so that services outside of the primary mission are treated as secondary in design. Outlying areas do not receive the same power levels as central areas. And, the satellite's availability is dependent on the vagaries of regional politics.

Alpha Lyracom is largely immune to regional politics, as it is an independent private entity. This neutral status has been amply demonstrated in Latin America, where Alpha Lyracom's services are widely used by countries which have historically maintained less than amicable relations. And, Alpha Lyracom's coverage throughout its Pacific coverage area will imitate the advantages of domestic satellites like Palapa, without the power limitations common to the spillover of domestic satellite systems.

V. Use of Alpha Lyracom for Thin Route Communications

Key to providing thin route communications is the availability of appropriate services. Alpha Lyracom will actively promote thin route communications through the following service offerings:

A. Spot beam transponders -- Optimal communications efficiency can only be achieved through the availability of high powered spot beam transponders. PAS-3 has been designed to provide such coverage to all of the major national groupings in the Pacific Rim.

B. Partial transponder offerings -- Many smaller users cannot afford to purchase an entire transponder. To meet these users' requirements, transponders will be offered in 9 Mhz increments, permitting growth into full transponders and providing the economic benefits arising from bulk bandwidth leases.

C. Part time offerings -- To meet the requirements for video networks, particularly for educational needs, transponders will be made available on a part time basis.

D. Resale -- All of Alpha Lyracom's services may be resold by users, permitting efficient time sharing of the space segment.

E. Customized power allocations -- Many users in thin route areas require non-standard satellite power allocations, permitting the use of transportable facilities. PAS-3 capacity can be purchased on the basis of power and bandwidth -- there are no strict tariff requirements on how service will be offered.

F. Shared hub DAMA and TDMA -- Achieving the economies arising from DAMA and TDMA systems requires investment in relatively costly hub stations. To meet the needs of smaller users, Alpha Lyracom will provide shared hub services for DAMA and TDMA, permitting smaller users to take advantage of the major economies of these technologies without having to undertake investments would cannot be cost justified due to the small size of individual markets.

G. Turn key services -- Offering the space segment does not necessarily help if small users lack the ability to access the space segment. Hence, Alpha Lyracom offers full turn key services, assuring that all users will be able to acquire the equipment necessary to efficiently utilize the service.

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 5

To ~~F Willardson~~	From FAL
Co. Roger Robinson	Co.
Dept. FYI	Phone #
Fax #	Fax # 202-466-3079

ALPHA
SPACE COM

March 28, 1991

Mr. Thomas D. Willardson / Charlie Snyder
Principal
Bechtel Investments, Inc.
50 Fremont Street - Suite 3700
San Francisco, CA 94105

Dear Tom:

Gerry Gorman at DLJ asked Alpha Lyracom to send you our comparison of Alpha Lyracom and Orion. We believe that after reading this document, the differences between an operating company such as Alpha Lyracom and a proposed system such as Orion will be clear to you. In addition, we believe the Global Satellite Venture has a number of features which may make it much more attractive to Bechtel Investments than an investment in Orion.

Firstly, from what we can glean from disclosed information about the Orion venture, Orion will be acting as manager of the venture but will have only limited rights to the transponder. Hence the business and scope of Orion's interest will be limited. The enormous upside of the satellite communications business will accrue to the limited partners who control the bulk of the transponders.

Secondly, Alpha Lyracom is only looking for one partner in each of Europe, the U.S., Japan and Asia. The potential for conflict and internal competition is minimized. this is in contrast to Orion with six or more partners just serving the Atlantic, where such problems are bound to occur. For instance, British Aerospace is applying for communication service licenses throughout Europe.

Thirdly, Orion has tied its venture to untested satellite technology to be built by it's partners. It's hard to control a partner's construction timetable and costs on a mass-produced satellite, let alone a custom satellite.

At the end of the day we believe the Orion venture will be successfully launched and we take them seriously as a potential competitor. However, we think our experience in the satellite services market and the very competitive costs of our new satellites will give us a substantial edge in that competition.

Sincerely,

Frederick A. Landman
President

FAL:mf

ALPHA LYRACOM

Comparison of Alpha Lyracom's Global Satellite Venture and Orion

Coverage Areas

	Alpha Lyracom	Orion
Current Coverage Area	Europe/North America Latin America, Caribbean	None
Planned Coverage Area	Global: -Europe/North America -Latin America, Caribbean -Pacific Rim/Oceania -Middle East -Central Asia/USSR -North & East Africa	-Europe/U.S. -NW Africa

Existing Fixed Uplinks

-Homestead, Fl. Master Station -N.Y. Gateway -Costa Rica Gateway -Contel Federal Systems -Department of State (under construction) -Department of Defense (under construction) -Pittsburgh Teleport (Pittsburgh & Germany) -British Telecom Teleport (London Docklands) [partial listing]	None (only Intelsat facilities)

ALPHA LYRACOM

Comparison of Alpha Lyracom's Global Satellite Venture and Orion

Transponder Costs

	Alpha Lyracom	Orion
Average in orbit cost per transponder	$4.0 million	$7.3 million

Transponders per satellite

	PAS-1:	Orion 1&2:
C-band	18	
Ku-band	6	34
	PAS 2&3:	
C-band	18	
Ku-band	6	

ALPHA LYRACOM

Comparison of Alpha Lyracom's Global Satellite Venture and Orion

Landing Rights

	Alpha Lyracom	Orion
North America	Western Europe	
Mexico	Austria	United Kingdom
United States	Belgium	United States
	Denmark	
Central America	France	
Belize	Germany	
Costa Rica	Greece	
Guatemala	Italy	
Honduras	Luxemborg	
Panama	Monaco	
	Netherlands	
South America	Portugal	
Argentina	Spain	
Bolivia	Sweden	
Brazil	Switzerland	
Chile	United Kingdom	
Colombia	Yugoslavia	
Ecuador		
Guyana	Eastern Europe	
Peru	Albania	
Paraguay	Bulgaria	
Suriname	Czechoslovakia	
Uruguay	Hungary	
Venezuela	Poland	
	Romania	
Caribbean	Soviet Union	
Antigua & Barbuda		
Aruba		
Bahamas		
Barbados		
Dominica		
Dominican Republic		
Grenada		
Haiti		
Netherlands Antilles		
St. Kitts & Nevis		
St. Lucia		
St. Vincent & Grenadines		
Trinidad and Tobago		
U.K. Territories		

In approval process	Canada		
In discussion	Japan	Taiwan	Hong Kong
	Singapore	Korea	Australia

ALPHA LYRACOM

Comparison of Alpha Lyracom's Global Satellite Venture and Orion

Customers

	Alpha Lyracom	Orion
Transponder Sales Customers	Channel 2 Peru Channel 4 Peru Channel 13 Peru Compania de Telefono de Chile Empresa Hondurena de Telecom Omnivision Telecinema Television Federal S.A. Television Nacional de Chile	Limited Partner who will use capacity for third party service
Major Broadcast Customers	ABC, NBC, BBC, CNN, ESPN, Galavision, HBO, NHK, RAI, TNT, VOA, TELEN S.A., EBU, RTB	None
Major Private Digital Leased Services	UNOCAL,EDS, Citibank, Sita, Volvo, US Dept. of Defense, Reuters, Citibank	EDS, leased services via Intelsat

ALPHA LYRACOM
MEMORANDUM

Douglas Goldschmidt
Vice President
Market Development

Telephone: 203-622-6664
Facsimile: 203-622-6664

April 20, 1991

TO: Fred Landman, Tom Whitehead

RE: Indonesian Investors

Mike Santos (Hughes) called today to tell me that the Salim Group, a major Indonesian industrial organization, is looking to invest in a satellite venture. They have previously investigated buying one of the end-of-life Palapa's, but would prefer something a bit newer.

The principals are scheduled to be visiting the U.S. during May, and will be in New York on May 9. Mike Santos is arranging their schedule and will call back to see if we can setup a meeting with them.

COVER SHEET

DATE: April 22, 1991

TO: Mr. Clay T. Whitehead

FAX NUMBER: (703) 847-8804

FROM: J. J. Peng

FAX NUMBER: (703) 255-0239

Header sheet plus 2 page(s)

CONTENTS/MESSAGES

Dear Mr. Whitehead:

As attached, I am sending you a copy of the letter that was sent by F. T. to Mr. Landrum Today for your reference.

If you have any questions, please let me know.

Best Regards.

J. J. Peng

TAIWAN TRANSPORTATION MACHINERY CORP.
9TH FLOOR, NO. 2, JEN-AI ROAD, SECTION 4,
TAIPEI, 10650, TAIWAN
TEL: (02) 702-9828

April 22, 1991

Frederick Landman
President
Alpha Lyracom d.b.a
Pan American Satellite
2 Grennwich Plaza
Greenwich, CT 06830, USA

Dear Mr. Landman,

Since you and Mr. Whitehead last visited Taipei here is what has been happening. I contacted several of the persons that you met with at the MOC and ITDC, especially the ITDC. Overall, they were quite impressed with your technical resources and proven ability and experience in providing satellite communication services. They said they feel secure and confident in dealing with a company like yours which has already successfully provided services in Europe and Latin America.

I took every opportunity in following up to catalyze the situation and accelerate favorable responses towards PANAMSAT. Today, I am quite confident in saying that their indications are most positive, so much that Dr. Chen has privately requested that a more technical manual be forwarded to him. He further recommended that such a forwarding should pass through a more formal channel. PANAMSAT should request the American Institute in Taiwan to forward this information to their counterpart in Taiwan, the Coordination Council for North American Affairs, from there it would be forwarded to the MOFA and finally to the MOC. These stops would serve as notice to concerned parties within the government. Further, this would help Dr. Chen carry out his task at hand.

In the final analysis, I would like to say that thus far everything is under control here. Of course, many things can happen between now and the future. For example, the Minister of Communications has been dragged into a scandal involving his daughter. At the moment his tenure in position seems quite shaky.

PTMC

In concluding I would like you to favor me the qualification of my concerns arising from a recent contact. It has come to my attention that the Ministry of Defense has also been approached by PANAMSAT. I would appreciate hearing from you on this so that I might view it more clearly.

Best regards,

R.T. Peng
President

cc: Mr. R. W. Robinson
Mr. T. S. Chiu
Mr. J. J. Peng

CHINA GREAT WALL INDUSTRY CORPORATION

REPRESENTATIVES
21515 HAWTHORNE BLVD. #1065, TORRANCE, CA 90503, USA.
TEL: (213) 540-7706, FAX: (213) 540-3475.

April 17, 1991

Mr. Fred. Landman
President
ALSC
One Pickwick Plaza
Greenwich, CT06830

Dear Mr. Landman:

Reference to your fax dated to Mr. Yue on April 12, CGWIC agrees in principle the offset arrangement, i.e. 30% of the launch service price will be payable by ALSC with satellite transponders. CGWIC will use those transponders worth 30% of the Launch cost to provide communications services for both domestic and South East Asia aeras or sign a resale agent agreement with ALSC.

Both parties needs further discussions regarding the technical data, foot print, prices and payment terms relative to offset transponders. An appropriate agreement for the about issues shall be signed by both parties not later than 24 months before the launch.

In terms of landing rights, as I stated in my fax of March 31, CGWIC agrees to assist ALSC in obtaining the landing rights from Chinese Government, but no specific date is stipulated in the LSC. It seems to me that with,the above commitments, this issue would not a big deal.

If ALSC accepts what is indicated above, I would like to propose that, based on the draft LORA of Feb. 27 and our previous correspondence, we can make relative changes (if the spacecrafts have been selected, we can fill the basic information in the LORA) and wrap up the LORA as soon as possible.

Sincerely yours,

Guodong Tian
Representative of CGWIC

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To TOM WHITEHEAD	From FRED LANDMAN
Co. 703-847-8804	Co.
Dept.	Phone #
Fax #	Fax #

CHINA GREAT WALL INDUSTRY CORPORATION

REPRESENTATIVES
21515 HAWTHORNE BLVD. #1065, TORRANCE, CA 90503, USA.
TEL: (213) 540-7706, FAX: (213) 540-3475.

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President
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One Pickwick Plaza
Greenwich, CT06830

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Guodong Tian
Representative of CGWIC

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 1

To TOM WHITEHEAD	From FRED LANDMAN
Co. 703-847-8804	Co.
Dept.	Phone #
Fax #	Fax #

FACSIMILE COVER SHEET

CLAY WHITEHEAD ASSOCIATES
1320 OLD CHAIN BRIDGE ROAD
McLEAN, VIRGINIA 22101
FAX: (703) 847-8804
VOICE: (703) 847-8787

TO: Dan Fleuter
attn: Kathy Wennemann

COMPANY:

FAX #: 314-664-3143

DATE: 4/22/91 TIME: 10:30

FROM: Tom Whitehead

Pages following this cover sheet: 2 pages.

COMMENTS:

FACSIMILE COVER SHEET

CLAY WHITEHEAD ASSOCIATES
1320 OLD CHAIN BRIDGE ROAD
McLEAN, VIRGINIA 22101
FAX: (703) 847-8804
VOICE: (703) 847-8787

TO: Jay Keyworth

COMPANY:

FAX #: 824-2917

DATE: 4/18/91 TIME: 10:45

FROM: Tom Whitehead

Pages following this cover sheet: 2 pages.

COMMENTS:

ALPHA LYRACOM
SPACE COMMUNICATIONS

FACSIMILE MESSAGE SHEET

Fax: 203/622-9163

FROM: Fred Landman

Date: 4-22-91 No of Pages 3

TO: Tom Whitehead

Fax No. 703 1847-8804

IF TRANSMISSION IS INCOMPLETE, PLEASE CALL 203/622-6664.

HACC PROPOSAL

Proposal:	Three Satellite Order - Three different beam forming networks, AOR-POR-IOR. Extra beam forming network for POR & AOR in event of launch failure of first two launches. Includes satellite, launch and mission operations. TT&C deliverables.
Delivery:	Initial satellite 33 months from signing of contract. Additional satellite, 36 months from exercise of option.
Initial order:	One satellite (POR) Option I for AOR with spare beam forming (POR) exercisable at 6 months, 9 months, 12 months from signing of contract. Option II for IOR with spare beaming (AOR) exercisable 9 months, 12 months 15 months from signing of contract.
Payment:	Initial Satellite - Progress Payment '91 5 mm '92 10 mm '93 10 mm

Six months prior to launch of first satellite Alpha Lyracom provides either L/C for 35 million payable to HACC at intentional ignition or HACC takes L/C for less amount and retains prorata interest in satellite.

In orbit incentive - HACC has 15 million payable in in orbit incentives over 12 year life at 10% interest.

If Alpha Lyracom does not exercise any options, the price of 1st satellite increase by 10 million. The additional 10 million is added to in orbit incentive. If Alpha Lyracom does not exercise option for 3rd satellite in purchase price for 1st and 2nd satellite, increase 5 million per satellite. The 5 million dollars increases is added to in orbit incentives.

HCI/HNS

Separate Negotiate Equity Investment:

Synergies

- Joint marketing of VSAT systems internationally.
- Joint marketing for service extension of HCI domestic customers to international.
- TT&C services from HCI for back-up
- Gateway facilities in California for POR service.

FAX COVER SHEET

TO :

Name : Tom Whitehead
Company : Clay Whitehead Assoc
Office Phone Number :
Fax Number : 703 · 847-8804

FROM :

Name : Roger Robinson
Company : RWA Inc
Office Phone Number : 202 223 8034
Fax Model/ Number : Cannon Fax-230
(202) 466-3079

Total Pages, including cover : 5

If you do not receive all the pages,
call (202) 466-0500

Date :
Time :
Fax Operator :
Comments:

FAX COVER SHEET

TO :

Name : Henry Goldberg
Company : Goldberg and Speed
Office Phone Number : _____
Fax Number : 429-4912

FROM :

Name : Rufus Robinson
Company : RWR Inc
Office Phone Number : 202-223 8034
Fax Model/ Number : Cannon Fax-230
(202) 466-3079

Total Pages, including cover : 4

If you do not receive all the pages,
call (202) 466-0500

Date : _____
Time : _____
Fax Operator : _____

Comments: Henry: Attached is the final invitation and the list of recipients. It should have said Nixon and Ford Administrations but no matter -- we'll get it right on the verbal introduction. Hope the event meets with your approval. Many thanks.

cc. Tom Whitehead

THE CENTER FOR SECURITY POLICY

Frank J. Gaffney, Jr.
Director

26 April 1991

MEMORANDUM FOR INTERESTED MEMBERS OF THE BOARD OF ADVISORS

From: Frank J. Gaffney, Jr.

Re: Briefing on Upcoming Presidential Decision on International Public Switched Telecommunications Traffic -- Wednesday, 1 May 4:00 p.m.

You are invited to attend a special briefing for key members of the Board of Advisors concerning an imminent, watershed decision now before the President. It concerns whether the present, COMSAT monopoly which controls *over seventy percent* of the international telecommunications traffic will be preserved -- despite a broad consensus that such an arrangement is protectionist and outdated.

This question has special significance to the national security community, as well as to those of us who are committed to free trade, in view of (among other things) the following:

- The contribution that the growth of free enterprise television outlets and advanced data communication capabilities around the world can make to promoting democracy and economic development;
- The increased robustness and reduced costs that the Defense Department could realize from a diversification of such telecommunications services; and
- The impact of the present arrangements -- and alternatives thereto -- on U.S. intelligence activities.

As you know, the Center has from its founding sought to focus attention of our Board and the larger security policy community on pressing questions of American technological competitiveness and how such questions can be addressed in a manner that strikes a proper balance between free flows of capital investment, goods and services and vital U.S. national security interests. Throughout, we have been mindful of the need to ensure that arguments made on national security grounds are not unfounded -- or otherwise misused to obstruct the technological dynamism which contributes so much to the larger national interests.

To help us assess whether national security considerations can legitimately be viewed as determinative in deciding whether to allow separate satellite systems to have access to the public switched network (PSN) or, alternatively, to maintain restrictions on such access, we have invited Henry Goldberg to address a select group at the Center. As you may know, Mr. Goldberg, former General Counsel of the Office of Telecommunications Policy, Executive Office of the President, in the Ford Administration, is senior partner of the Washington law firm, Goldberg and Spector, which specializes in the international telecommunications field.

Please join us for what promises to be a stimulating and informative discussion of one of the major technology and competitiveness policy issues of our day. We will meet at the Center's 3rd floor conference room, 1250 24th Street, N.W. from 4:00 to 5:30 p.m. Please let Susan Doyle (202-466-0515) know if you can attend. Best regards.

SATCOM FAX GROUP

4/26/91

Hon. Elliott Abrams
Fellow
Hudson Institute
4401 Ford Avenue
Alexandria, VA 22302",
"Mr. Robert Andrews
Director, Congressional Relations
Rockwell International, Inc.
2687 Marcey Road
Arlington, VA 22208",
"Hon. Stephen D. Bryen
President
Delta Tech Corporation
1111 Jefferson Davis Highway, #801
Arlington, VA 22202",
"Hon. Margo Carlisle
Chief of Staff
Office of Senator Cochran
326 Russell Senate Office Building
Washington, DC 20510",
"Hon. Seth Cropsey
Director of Asian Studies Center
Heritage Foundation
214 Massachusetts Ave., NE
Washington, DC 20002",
"Mr. Jon Englund
Manager, Government Business
American Electronics Association
1225 Eye Street, NW, #950
Washington, DC 20005",
"Mr. Patrick Glynn
Senior Fellow
American Enterprise Institute
1150 17th Street, NW
Washington, DC 20036",
"Ms. Amoretta M. Hoeber
Senior Staff
Tess Inc., TRW Inc.
10306 Eaton Place, Ste. 300
Fairfax, VA 22030",
"Dr. Fred C. Ikle
7010 Glenbrook Road
Bethesda, MD 20814",
"Dr. George A. Keyworth II
Director of Research
Hudson Institute
4401 Ford Avenue
Arlington, VA 22302",
"Dr. Charles Kupperman
President & CEO
XSirius Superconductivity
1110 N. Glebe Road, #1020
Arlington, VA 22201",
"Mr. David Mason

214 Massachusetts Ave., NE
Washington, DC 20002",
"Hon. Richard Perle
Senior Fellow
American Enterprise Institute
1150 17th Street, NW
Washington, DC 20036",
"General Bernard A. Schriever USAF (ret.)
Visiting Fellow
American Enterprise Institute
1150 17th Street, NW
Washington, DC 20036",
"Ms. Michelle K. Van Cleave
Assistant Director for National Security Affairs
Office of Science and Technology Policy
Old Executive Office Bldg., Rm. 572
Washington, DC 20506",

Sy Weiss Also

Jim Fletcher

Tom Pawnall

FAX COVER SHEET

TO :

Name : Tom Whitehead

Company : Clay Whitehead Assoc

Office Phone Number :

Fax Number : 703-847-8804

FROM :

Name : Roger Robinson

Company : RWR Inc

Office Phone Number : 202 223 8084

Fax Model/ Number : Cannon Fax-230
(202) 466-3079

Total Pages, including cover : 3

If you do not receive all the pages,
call (202) 466-0500

Date : 4/26

Time : 1:00pm

Fax Operator :

Comments: Tom: Please review the attached for Broadway. We're happy to make any recommended changes.

FAX COVER SHEET

TO :

Name : Henry Goldberg
Company : Goldberg and Speckar
Office Phone Number :
Fax Number : 429-4912

FROM :

Name : Roger Robinson
Company : RNC Inc.
Office Phone Number :
Fax Model/ Number : Cannon Fax-230
(202) 466-3079

Total Pages, including cover : 2

If you do not receive all the pages,
call (202) 466-0500

Date : 4/26/91
Time : 12:50
Fax Operator :

Comments: Henry. Attached is a proposed announcement for a briefing session at the Center. You will notice a date ~~change~~ change to Wednesday, May 1 from 4pm-5:30pm. Although I will not be able to attend any event after Monday this shift, if your schedule permits, would help ensure better attendance. Frank Gaffney has promised to lead CATO's excellent paper to help stimulate discussion. In addition, we thought it addressing your former position in the Nixon Admin. Please let me know if date/substance acceptable.

cc Tom Whitehead

DRAFT

26 April 1991

THE CENTER FOR SECURITY POLICY

Frank J. Gaffney, Jr.
Director

MEMORANDUM FOR INTERESTED MEMBERS OF THE BOARD OF ADVISORS

From: Frank J. Gaffney, Jr.

Re: Briefing on Upcoming Presidential Decision on International Public Switched Telecommunications Traffic -- Wednesday, 1 May 4:00 p.m.

You are invited to attend a special briefing for key members of the Board of Advisors concerning an imminent, watershed decision now before the President. It concerns whether the present, COMSAT monopoly which controls *over seventy percent* of the international telecommunications traffic will be preserved -- despite a broad consensus that such an arrangement is protectionist and outdated.

This question has special significance to the national security community, as well as to those of us who are committed to free trade, in view of (among other things) the following:

- The contribution that the growth of free enterprise television outlets and advanced data communication capabilities around the world can make to promoting democracy and economic development;
- The increased robustness and reduced costs that the Defense Department could realize from a diversification of such telecommunications services;
- The impact of the present arrangements -- and alternatives thereto -- on U.S. intelligence activities.

As you know, the Center has from its founding sought to focus attention of our Board and the larger security policy community on pressing questions of American technological competitiveness and how such questions can be addressed in a manner that strikes a proper balance between free flows of capital investment, goods and services and vital U.S. national security interests. Throughout, we have been mindful of the need to ensure that arguments made on national security grounds are not unfounded -- or otherwise misused to obstruct the technological dynamism which contributes so much to the larger national interests.

To help us assess whether national security considerations can legitimately be viewed as determinative in deciding whether to allow separate satellite systems to have access to the public switched network (PSN) or, alternatively, to maintain restrictions on such access, we have invited Henry Goldberg to address a select group at the Center. As you may know, Mr. Goldberg, former in the Nixon Administration, is senior partner of the Washington law firm, Goldberg and Spector, which specializes in the international telecommunications field.

Please join us for what promises to be a stimulating and informative discussion of one of the major technology and competitiveness policy issues of our day. We will meet at the Center's 3rd floor conference room, 1250 24th Street, N.W. from 4:00 p.m. to 5:30. Please let Susan Doyle (202-466-0515) know if you can attend. Best regards.

DOCUMENTS WITHHELD FROM PRODUCTION
ATTORNEY CLIENT PRIVILEGE

607

VIA FACSIMILE: 703-847-8804

March 25, 1991

TO: Tom Whitehead

FROM: Tom Carroux

SUBJECT: National Coverage Provided by PAS-3

Australia
Brunei
Cambodia
Hong Kong
Indonesia
Japan
Laos
Malaysia
New Zealand
North Korea
Papua New Guinea
People's Republic of China
Philippines
Singapore
South Korea
Soviet Union
Taiwan
Thailand
United States of America (Alaska, California, Hawaii, Oregon & Washington)
United States Trust Territories
Vietnam

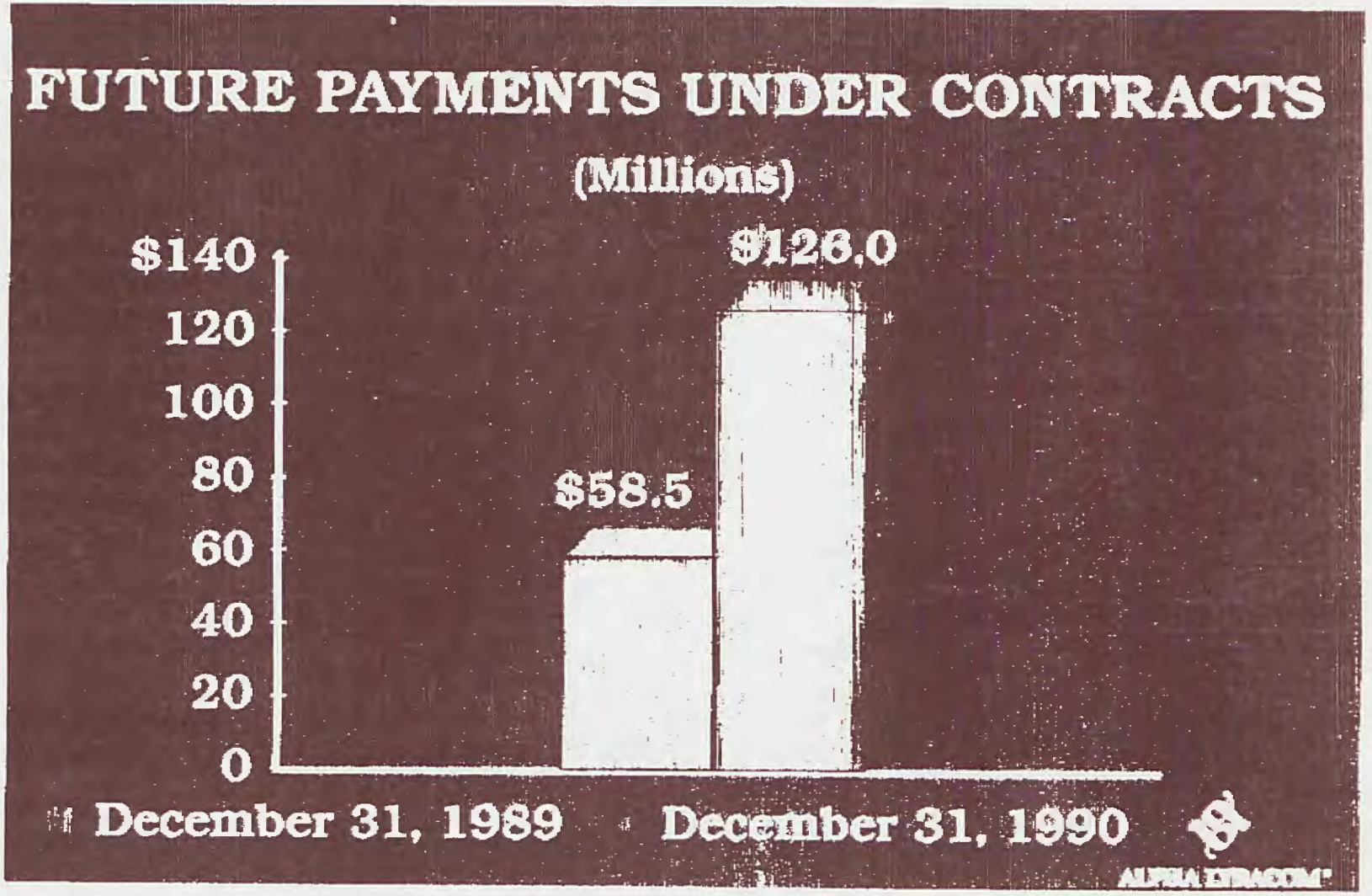
1990 AND 1991 SUMMARY RESULTS
(Millions)

	1990	Projected 1991*	Growth Rate
Revenues			
Transponders	$ 4.8	$ 5.2	8.3%
Broadcast Services	10.2	18.7	83.3%
Data Services	1.7	5.3	211.8%
Total Revenues	$16.7	$29.2	74.9%
Summary Results			
Total Revenues	$16.7	$29.2	74.9%
Operating Cash Flow (EBDAIT)	7.9	17.0	115.2%
Net Income	0.7	9.5	1,257.1%

	Jan.-Feb. 1990	Jan.-Feb. 1991	
Total Revenues	$1.3	$6.7	415.4%
Net Income (Loss)	(1.1)	4.0	N.M.

ALPHA LYRACOM

*Note: Contracts already executed provide for $21.9 million of revenues in 1991.



ONE

~~T~~ SATELLITES

Current Case: Management
Operating Assump.: Management
Equity Assump. : $55 mm Equity
34 % LP / 66 % GP Cash Allocation

FINANCING ANALYSIS

($ in Thousands)

28-Mar-91
06:25 PM

OPERATING PROJECTIONS

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
PAS 1 Revenues	$15,109	$26,365	$40,368	$48,668	$58,507	$64,706	$64,619	$62,195	$60,178	$58,860	$56,208	$29,673	$0	$0	$0	$0
PAS 2 Revenues	0	0	0	12,415	49,962	74,422	83,798	92,246	97,575	96,698	102,545	134,485	168,106	168,106	168,106	168,106
PAS 3 Revenues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAS 4 Revenues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Revenues	$15,109	$26,365	$40,368	$61,083	$108,469	$139,128	$148,417	$154,441	$157,753	$155,558	$158,753	$164,158	$168,106	$168,106	$168,106	$168,106
Operating & Direct Expenses	$8,498	$10,449	$10,994	$24,716	$27,292	$29,495	$31,263	$33,081	$35,093	$37,472	$40,165	$42,790	$30,081	$31,848	$33,821	$36,023
EBDAIT	$6,611	$15,916	$29,374	$36,367	$81,177	$109,633	$117,154	$121,360	$122,660	$118,086	$118,588	$121,368	$138,025	$136,258	$134,285	$132,083
Pre-Tax Book Income	($261)	$8,792	$22,223	$21,537	$42,396	$71,335	$80,288	$86,333	$89,610	$87,331	$90,461	$96,864	$118,624	$117,824	$116,965	$122,202
Cash Flow Avail. for Dist.	$0	$0	$0	$14,256	$37,296	$69,049	$78,904	$84,858	$87,008	$83,319	$82,864	$110,822	$130,518	$131,163	$132,647	$130,447

DEBT COVERAGE AND REPAYMENT

EBDAIT / Total Interest	3.7	11.8	42.1	74.9	5.1	7.6	9.3	11.4	14.4	19.0	32.3	141.1	230.0	433.4	NA	NA
EBDAIT / Total Debt Service	1.3	3.1	5.0	31.6	2.6	3.6	3.7	4.0	4.1	4.0	4.0	35.1	39.9	39.4	NA	NA
Cash Avail. for Debt Repayment / Total Principal Payment	1.0	2.5	4.4	44.0	3.5	5.2	5.2	5.3	5.0	4.6	4.2	43.7	46.7	42.7	NA	NA
Total LT Debt Outstanding	$14,229	$17,866	$48,675	$148,465	$133,830	$117,576	$98,854	$79,236	$57,682	$34,410	$8,600	$6,002	$3,144	($0)	($0)	($0)

PAS 2, 3 & 4 SOURCES AND USES

Uses of Funds		1991	1992	1993	1994	Total
Satellites Construction Costs		$29,750	$29,750	$25,500	$0	$85,000
Launch Costs		4,560	4,560	28,880	0	38,000
Insurance Costs		0	0	25,193	0	25,193
Start Up Expenses		3,000	1,500	0	0	4,500
Ground Facility Upgrade		0	0	12,000	0	12,000
Repayment of Existing Debt		15,000	5,000	5,000	0	25,000
Fees		4,795	0	0	0	4,795
Interest		0	528	3,880	0	4,409
Contingency		0	0	0	0	0
Total		$57,105	$41,338	$100,453	$0	$198,897
Source of Funds						
Equity		$49,668	$5,332	$0	$0	$55,000
Vendor Debt/Incentive Fee	10.0%	7,438	7,438	6,375	0	21,250
Bank Debt	11.0%	0	28,569	94,078	0	122,647
Total		$57,105	$41,338	$100,453	$0	$198,897

PARTNERSHIP ALLOCATIONS

L.P. FIRST YEAR OF DISTRIBUTION	1993
ALLOCATION OF CASH FLOW	
L.P.	34.0%
G.P.	66.0%
ALLOCATION OF TAXABLE INCOME	
L.P.	34.0%
G.P.	66.0%

LIMITED PARTNERS' RETURN SUMMARY

	2000	2005
Pre-Tax IRR	23.4%	30.1%
Payback	5.60	Years

GENERAL PARTNER'S VALUATION SUMMARY

	1991-2000	1991-2005
Pre-Tax NPV @ 15%	$134,410	$248,350
After-Tax NPV @ 15%	90,175	181,998

LIMITED PARTNERS' RETURN ANALYSIS

		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Partnership Economics																
Cash Flow Avail. for Dist.		$0	$0	$14,256	$37,296	$69,049	$78,904	$84,858	$87,008	$83,319	$82,864	$110,822	$130,518	$131,163	$132,647	$130,447
Pre-Tax Tax Income		4,852	18,282	12,446	28,953	57,802	75,373	81,094	84,361	82,065	96,893	113,762	132,008	131,209	130,349	128,966
Exit Value (1)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	504,043
Equity Investment by Ltd Ptrs		$49,668	$5,332	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Limited Partners' Cash Flow																
Cash Flow Available for Dist.		$0	$0	$14,256	$37,296	$69,049	$78,904	$84,858	$87,008	$83,319	$82,864	$110,822	$130,518	$131,163	$132,647	$130,447
Allocation of CF Avail. for Dist. (3)	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%
Cash Flow Available for Dist.		0	0	4,847	12,681	23,477	26,827	28,852	29,583	28,328	28,174	37,680	44,376	44,595	45,100	44,352
Allocation of Exit Value	27.2%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	137,100
Limited Partners' Pre-Tax Tax Income																
Pre-Tax Tax Income % Allocation (2)	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%
Pre-Tax Tax Income / (Loss)		$1,650	$6,216	$4,232	$9,844	$19,653	$25,627	$27,572	$28,683	$27,902	$32,944	$38,679	$44,883	$44,611	$44,319	$43,848
Limited Partners' Return Analysis																
Capital Contribution		(49,668)	(5,332)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cash Flow Dist. to LP's		0	0	4,847	12,681	23,477	26,827	28,852	29,583	28,328	28,174	37,680	44,376	44,595	45,100	181,452
Net Pre-Tax Cash Flow		($49,668)	($5,332)	$4,847	$12,681	$23,477	$26,827	$28,852	$29,583	$28,328	$28,174	$37,680	$44,376	$44,595	$45,100	$181,452
Tax Benefit / (Liability) Tax Rat	40.0%	(660)	(2,486)	(1,693)	(3,938)	(7,861)	(10,251)	(11,029)	(11,473)	(11,161)	(13,177)	(15,472)	(17,953)	(17,844)	(17,727)	(17,539)
Net After-Tax Cash Flow		(50,328)	(7,818)	3,154	8,743	15,616	16,577	17,823	18,110	17,168	14,996	22,208	26,423	26,751	27,373	163,912
Net Pre-Tax Cash Flow		($49,668)	($5,332)	$4,847	$12,681	$23,477	$26,827	$28,852	$29,583	$28,328	$28,174	$37,680	$44,376	$44,595	$45,100	$181,452
Pre-Tax Cash IRR		NA	NA	NA	NA	NA	5.5%	13.5%	18.4%	21.4%	23.4%	25.2%	26.6%	27.6%	28.3%	30.1%
Net After-Tax Cash Flow		($50,328)	($7,818)	$3,154	$8,743	$15,616	$16,577	$17,823	$18,110	$17,168	$14,996	$22,208	$26,423	$26,751	$27,373	$163,912
After-Tax Cash IRR		NA	NA	NA	NA	NA	NA	1.4%	6.7%	10.0%	12.1%	14.3%	16.2%	17.5%	18.5%	22.0%
Cumulative Pre-Tax Cash Flow		0	0	4,847	17,528	41,004	67,832	96,684	126,266	154,595	182,768	220,448	264,824	309,419	354,519	398,871
Payback Years	5.60															

(1) Exit Value is equal to 40 % of five times Cash Flow Available for Distribution in 2005 less $800 million for construction and launch of three satellites.
(2) Limited Partners receive 34 % of Cash Flow Available for Disribution and General Partner receives 66 % of Cash Flow Available for Distribution.
(3) Limited Partners are allocated 34 % of Pre-Tax Tax Income.
(4) It is assumed that the Limited Partners are subject to a 40 % tax rate.

GENERAL PARTNER RETURN ANALYSIS

		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Partnership Economics																
Cash Flow Avail. for Dist.		$0	$0	$14,256	$37,296	$69,049	$78,904	$84,858	$87,008	$83,319	$82,864	$110,822	$130,518	$131,163	$132,647	$130,447
Pre-Tax Tax Income		4,852	18,282	12,446	28,953	57,802	75,373	81,094	84,361	82,065	96,893	113,762	132,008	131,209	130,349	128,966
Exit Value		0	0	0	0	0	0	0	0	0	0	0	0	0	0	504,043
General Partner's Cash Flow																
Allocation of CF Avail. for Dist. (1)	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%
Cash Flow Avail. for Dist.		0	0	9,409	24,615	45,573	52,077	56,007	57,425	54,990	54,690	73,143	86,142	86,567	87,547	86,095
Allocation of Exit Value	72.8%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	366,943
General Partner's Pre-Tax Tax Income																
Pre-Tax Tax Income % Allocation (2)	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%	66.0%
Pre-Tax Tax Income / (Loss)		3,202	12,066	8,214	19,109	38,149	49,746	53,522	55,678	54,163	63,949	75,083	87,125	86,598	86,030	85,117
General Partner's Return Analysis																
Pre-Tax Cash Flow		$0	$0	$9,409	$24,615	$45,573	$52,077	$56,007	$57,425	$54,990	$54,690	$73,143	$86,142	$86,567	$87,547	$453,038
Tax Benefit / (Liability)	Tax Rat 32.0%	(1,025)	(3,861)	(2,629)	(6,115)	(12,208)	(15,919)	(17,127)	(17,817)	(17,332)	(20,464)	(24,027)	(27,880)	(27,711)	(27,530)	(27,238)
After-Tax Cash Flow		(1,025)	(3,861)	6,780	18,500	33,365	36,158	38,879	39,608	37,658	34,226	49,116	58,262	58,856	60,017	425,801
Cumulative Pre-Tax Cash Flow		0	0	9,409	34,024	79,597	131,674	187,680	245,105	300,096	354,786	427,929	514,070	600,638	688,185	1,141,223

Discounted Cash Flow Analysis

	1991-2000 Pre-Tax	1991-2000 After-Tax	1991-2005 Pre-Tax	1991-2005 After-Tax
10%	$181,511	$122,330	$391,177	$292,895
15%	134,410	90,175	248,350	181,998
20%	101,547	67,717	165,367	118,674
25%	78,117	51,698	114,869	80,778
30%	61,082	40,053	82,793	57,081
35%	48,472	31,440	61,603	41,651

(1) General Partner receives 66 % of Cash Flow Available for Distribution .
(2) General Partner is allocated 66 % of Pre-Tax Tax Income.
(3) It is assumed that the General Partner is subject to a 32 % tax rate.

SUMMARY OF REVENUE PROJECTIONS

PROJECTED PAS 1	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Spot Beam Sales																
Executed Contracts	$2,983	$2,977	$2,964	$2,949	$2,931	$2,216	$2,020	$520	$0	$0	$0	$0	$0	$0	$0	$0
New Contracts	250	2,146	3,519	3,503	3,487	3,467	2,479	2,070	2,070	2,070	2,070	2,070	0	0	0	0
Total Projected Revenues	$3,233	$5,123	$6,483	$6,452	$6,418	$5,683	$4,499	$2,590	$2,070	$2,070	$2,070	$2,070	$0	$0	$0	$0
% Growth	-74.1%	58.5%	26.5%	-0.5%	-0.5%	-11.5%	-20.8%	-42.4%	-20.1%	0.0%	0.0%	0.0%	NA	NA	NA	NA
% of Total PAS 1	21.4%	19.4%	16.1%	13.3%	11.0%	8.8%	7.0%	4.2%	3.4%	3.5%	3.7%	7.0%	NA	NA	NA	NA
Broadcast Services																
Executed Contracts	$9,116	$8,391	$7,066	$7,137	$6,895	$6,864	$6,964	$6,959	$4,880	$4,200	$4,200	$2,100	$0	$0	$0	$0
New Contracts	634	7,499	12,026	10,752	10,741	10,922	10,872	10,877	12,956	13,856	13,856	5,539	0	0	0	0
Total Projected Revenues	$9,750	$15,890	$19,092	$17,889	$17,636	$17,786	$17,836	$17,836	$17,836	$18,056	$18,056	$7,639	$0	$0	$0	$0
% Growth	126.2%	63.0%	20.2%	-6.3%	-1.4%	0.9%	0.3%	0.0%	0.0%	1.2%	0.0%	-57.7%	NA	NA	NA	NA
% of Total PAS 1	64.5%	60.3%	47.3%	36.8%	30.1%	27.5%	27.6%	28.7%	29.6%	30.7%	32.1%	25.7%	NA	NA	NA	NA
Data Services																
Executed Contracts	$1,785	$2,094	$1,308	$940	$487	$315	$119	$119	$70	$0	$0	$0	$0	$0	$0	$0
New Contracts	341	3,258	13,485	23,387	33,966	40,922	42,165	41,650	40,202	38,734	36,082	19,964	0	0	0	0
Total Projected Revenues	$2,126	$5,352	$14,793	$24,327	$34,453	$41,237	$42,284	$41,769	$40,272	$38,734	$36,082	$19,964	$0	$0	$0	$0
% Growth	446.7%	151.7%	176.4%	64.4%	41.6%	19.7%	2.5%	-1.2%	-3.6%	-3.8%	-6.8%	-44.7%	NA	NA	NA	NA
% of Total PAS 1	14.1%	20.3%	36.6%	50.0%	58.9%	63.7%	65.4%	67.2%	66.9%	65.8%	64.2%	67.3%	NA	NA	NA	NA
TOTAL REVENUE PAS 1	$15,109	$26,365	$40,368	$48,668	$58,507	$64,706	$64,619	$62,195	$60,178	$58,860	$56,208	$29,673	$0	$0	$0	$0
% Growth	-12.0%	74.5%	53.1%	20.6%	20.2%	10.6%	-0.1%	-3.8%	-3.2%	-2.2%	-4.5%	-47.2%	NA	NA	NA	NA
% of Total Revenues - PAS 1, 2, 3 & 4	100.0%	100.0%	100.0%	79.7%	53.9%	46.5%	43.5%	40.3%	38.1%	37.8%	35.4%	18.1%	0.0%	0.0%	0.0%	0.0%

REVENUE SUMMARY CONT'D

PROJECTED PAS 2	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Spot Beam Sales	$0	$0	$0	$4,000	$17,000	$26,000	$26,000	$26,000	$22,000	$9,000	$0	$0	$0	$0	$0	$0
% Growth	NA	NA	NA	NA	325.0%	52.9%	0.0%	0.0%	-15.4%	-59.1%	-100.0%	NA	NA	NA	NA	NA
% of Total PAS 2	NA	NA	NA	32.2%	34.0%	34.9%	31.0%	28.2%	22.5%	9.3%	NA	NA	NA	NA	NA	NA
Broadcast Services	0	0	0	6,300	26,400	35,400	37,900	38,400	38,400	38,400	38,400	38,400	38,400	38,400	38,400	38,400
% Growth	NA	NA	NA	NA	319.0%	34.1%	7.1%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
% of Total PAS 2	NA	NA	NA	50.7%	52.8%	47.6%	45.2%	41.6%	39.4%	39.7%	37.4%	28.6%	22.8%	22.8%	22.8%	22.8%
Data Services	0	0	0	2,115	6,562	13,022	19,898	27,846	37,175	49,298	64,145	96,085	129,706	129,706	129,706	129,706
% Growth	NA	NA	NA	NA	210.3%	98.4%	52.8%	39.9%	33.5%	32.6%	30.1%	49.8%	35.0%	0.0%	0.0%	NM
% of Total PAS 2	NA	NA	NA	17.0%	13.1%	17.5%	23.7%	30.2%	38.1%	51.0%	62.6%	71.4%	77.2%	77.2%	77.2%	77.2%
TOTAL REVENUES PAS 2	$0	$0	$0	$12,415	$49,962	$74,422	$83,798	$92,246	$97,575	$96,698	$102,545	$134,485	$168,106	$168,106	$168,106	$168,106
% Growth	NA	NA	NA	NA	302.4%	49.0%	12.6%	10.1%	5.8%	-0.9%	6.0%	31.1%	25.0%	0.0%	0.0%	0.0%
% of Total Revenues - PAS 1, 2, 3 & 4	0.0%	0.0%	0.0%	20.3%	46.1%	53.5%	56.5%	59.7%	61.9%	62.2%	64.6%	81.9%	100.0%	100.0%	100.0%	100.0%

PROJECTED PAS 3	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Spot Beam Sales	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
% Growth	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
% of Total PAS 3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Broadcast Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
% Growth	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
% of Total PAS 3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Data Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
% Growth	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
% of Total PAS 3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL REVENUES PAS 3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
% Growth	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
% of Total Revenues - PAS 1, 2, 3 & 4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

PROJECTED PAS 4	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Spot Beam Leases	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
% Growth	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
% of Total PAS 4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Broadcast Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
% Growth	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
% of Total PAS 4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Data Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
% Growth	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
% of Total PAS 4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL REVENUES PAS 4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
% Growth	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
% of Total Revenues - PAS 1, 2, 3 & 4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

PROJECTED REVENUE TOTALS

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Spot Beam Sales																
PAS 1	$3,233	$5,123	$6,483	$6,452	$6,418	$5,683	$4,499	$2,590	$2,070	$2,070	$2,070	$2,070	$0	$0	$0	$0
PAS 2	0	0	0	4,000	17,000	26,000	26,000	26,000	22,000	9,000	0	0	0	0	0	0
PAS 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAS 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	$3,233	$5,123	$6,483	$10,452	$23,418	$31,683	$30,499	$28,590	$24,070	$11,070	$2,070	$2,070	$0	$0	$0	$0
% of Total Revenues - PAS 1, 2, 3 & 4	21.4%	19.4%	16.1%	17.1%	21.6%	22.8%	20.5%	18.5%	15.3%	7.1%	1.3%	1.3%	0.0%	0.0%	0.0%	0.0%
Broadcast Services																
PAS 1	$9,750	$15,890	$19,092	$17,889	$17,636	$17,786	$17,836	$17,836	$17,836	$18,056	$18,056	$7,639	$0	$0	$0	$0
PAS 2	0	0	0	6,300	26,400	35,400	37,900	38,400	38,400	38,400	38,400	38,400	38,400	38,400	38,400	38,400
PAS 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAS 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	$9,750	$15,890	$19,092	$24,189	$44,036	$53,186	$55,736	$56,236	$56,236	$56,456	$56,456	$46,039	$38,400	$38,400	$38,400	$38,400
% of Total Revenues - PAS 1, 2, 3 & 4	64.5%	60.3%	47.3%	39.6%	40.6%	38.2%	37.6%	36.4%	35.6%	36.3%	35.6%	28.0%	22.8%	22.8%	22.8%	22.8%
Data Services																
PAS 1	$2,126	$5,352	$14,793	$24,327	$34,453	$41,237	$42,284	$41,769	$40,272	$38,734	$36,082	$19,964	$0	$0	$0	$0
PAS 2	0	0	0	2,115	6,562	13,022	19,898	27,846	37,175	49,298	64,145	96,085	129,706	129,706	129,706	129,706
PAS 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAS 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	$2,126	$5,352	$14,793	$26,442	$41,015	$54,259	$62,182	$69,615	$77,447	$88,032	$100,227	$116,049	$129,706	$129,706	$129,706	$129,706
% of Total Revenues - PAS 1, 2, 3 & 4	14.1%	20.3%	36.6%	43.3%	37.8%	39.0%	41.9%	45.1%	49.1%	56.6%	63.1%	70.7%	77.2%	77.2%	77.2%	77.2%
Projected PAS 1, 2, 3 & 4																
TOTAL REVENUES PAS 1, 2, 3 & 4	$15,109	$26,365	$40,368	$61,083	$108,469	$139,128	$148,417	$154,441	$157,753	$155,558	$158,753	$164,158	$168,106	$168,106	$168,106	$168,106
% Growth	-12.0%	74.5%	53.1%	51.3%	77.6%	28.3%	6.7%	4.1%	2.1%	-1.4%	2.1%	3.4%	2.4%	0.0%	0.0%	0.0%

BOOK INCOME STATEMENT

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Revenues																
PAS 1 Revenues	$15,109	$26,365	$40,368	$48,668	$58,507	$64,706	$64,619	$62,195	$60,178	$58,860	$56,208	$29,673	$0	$0	$0	$0
PAS 2 Revenues	0	0	0	12,415	49,962	74,422	83,798	92,246	97,575	96,698	102,545	134,485	168,106	168,106	168,106	168,106
PAS 3 Revenues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAS 4 Revenues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Revenues	$15,109	$26,365	$40,368	$61,083	$108,469	$139,128	$148,417	$154,441	$157,753	$155,558	$158,753	$164,158	$168,106	$168,106	$168,106	$168,106
Direct Expenses																
PAS 1	$1,465	$2,955	$3,222	$3,485	$3,826	$4,020	$3,922	$3,744	$3,516	$3,298	$3,012	$1,533	$0	$0	$0	$0
PAS 2	0	0	0	4,210	5,044	5,508	5,669	5,782	5,940	6,237	6,671	7,959	9,332	9,023	8,714	8,405
PAS 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAS 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Direct Expenses	$1,465	$2,955	$3,222	$7,695	$8,870	$9,529	$9,591	$9,526	$9,456	$9,535	$9,683	$9,492	$9,332	$9,023	$8,714	$8,405
Net Revenue	$13,643	$23,410	$37,146	$53,388	$99,599	$129,599	$138,826	$144,915	$148,297	$146,023	$149,070	$154,666	$158,774	$159,083	$159,392	$159,701
Operating Expenses																
PAS 1	$7,033	$7,494	$7,772	$8,221	$8,741	$9,318	$9,959	$10,671	$11,464	$12,348	$13,333	$14,435	$0	$0	$0	$0
PAS 2	0	0	0	8,800	9,680	10,648	11,713	12,884	14,172	15,590	17,149	18,864	20,750	22,825	25,107	27,618
PAS 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAS 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Operating Expenses	$7,033	$7,494	$7,772	$17,021	$18,421	$19,966	$21,672	$23,555	$25,637	$27,937	$30,482	$33,298	$20,750	$22,825	$25,107	$27,618
EBDAIT	$6,611	$15,916	$29,374	$36,367	$81,177	$109,633	$117,154	$121,360	$122,660	$118,086	$118,588	$121,368	$138,025	$136,258	$134,285	$132,083
Book Depreciation & Amortization																
Depreciation & Amortization	$5,097	$5,775	$6,453	$14,344	$22,780	$23,917	$24,269	$24,365	$24,524	$24,541	$24,451	$23,643	$18,800	$18,120	$17,320	$9,881
Cost of Spot Beam Sales	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Depr. & Amort.	$5,097	$5,775	$6,453	$14,344	$22,780	$23,917	$24,269	$24,365	$24,524	$24,541	$24,451	$23,643	$18,800	$18,120	$17,320	$9,881
EBIT	1,514	10,141	22,921	22,023	58,397	85,716	92,885	96,995	98,136	93,545	94,137	97,724	119,224	118,139	116,965	122,202
Interest Expense																
GE Performance Incentive	$446	$409	$369	$325	$276	$221	$162	$95	$24	$0	$0	$0	$0	$0	$0	$0
Contel/ASC Corp	1,011	673	116	0	0	0	0	0	0	0	0	0	0	0	0	0
Phillips Credit	318	266	213	161	109	56	9	0	0	0	0	0	0	0	0	0
Vendor Debt/Incentive Fee	0	0	0	0	2,125	1,992	1,845	1,684	1,506	1,311	1,096	860	600	314	0	0
Senior Debt	0	0	0	0	13,491	12,112	10,581	8,882	6,996	4,903	2,579	0	0	0	0	0
Total Interest Expense	$1,774	$1,348	$698	$486	$16,000	$14,382	$12,597	$10,661	$8,527	$6,214	$3,676	$860	$600	$314	$0	$0
Pre-Tax Book Income	($261)	$8,792	$22,223	$21,537	$42,396	$71,335	$80,288	$86,333	$89,610	$87,331	$90,461	$96,864	$118,624	$117,824	$116,965	$122,202

BALANCE SHEET

ASSETS	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Current:																
Cash	$2,130	$7,689	$25,499	$39,755	$39,755	$39,755	$39,755	$39,755	$39,755	$39,755	$39,755	$39,755	$39,755	$39,755	$39,755	$39,755
Accounts Receivable:																
Current Portion of Long Term	377	377	377	377	377	377	377	377	377	377	377	377	377	377	377	377
Other	2,484	4,334	6,636	10,041	17,831	22,870	24,397	25,388	25,932	25,571	26,096	26,985	27,634	27,634	27,634	27,634
Prepaid Expenses	429	748	1,145	1,733	3,077	3,947	4,210	4,381	4,475	4,413	4,503	4,657	4,769	4,769	4,769	4,769
Total Current Assets	5,420	13,148	33,657	51,906	61,039	66,949	68,740	69,901	70,539	70,116	70,732	71,774	72,535	72,535	72,535	72,535
Long Term Receivable	1,982	1,487	991	496	0	0	0	0	0	0	0	0	0	0	0	0
Property & Equipment	64,274	124,771	169,499	274,406	280,153	284,809	290,459	295,947	301,244	307,161	313,200	319,767	321,635	323,528	325,447	327,392
Less: Depr. and Amort	11,582	17,357	23,810	38,154	60,934	84,851	109,120	133,485	158,009	182,550	207,001	230,644	249,444	267,564	284,884	294,765
Net Property and Equipment	52,692	107,414	145,689	236,252	219,219	199,958	181,339	162,462	143,235	124,611	106,199	89,123	72,191	55,964	40,563	32,627
Other Assets:																
Notes Receivable	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deposits	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
Investments, @ Cost	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Total Other Assets	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375
Total Assets	$60,469	$122,424	$180,711	$289,028	$280,633	$267,282	$250,453	$232,737	$214,149	$195,102	$177,306	$161,271	$145,100	$128,873	$113,472	$105,537

BALANCE SHEET

LIABILITIES AND EQUITY

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Current Liabilities:																
Accounts Payable	$867	$924	$958	$2,098	$2,271	$2,462	$2,672	$2,904	$3,161	$3,444	$3,758	$4,105	$2,558	$2,814	$3,095	$3,405
Accrued Expenses	488	851	1,303	1,972	3,501	4,490	4,790	4,985	5,092	5,021	5,124	5,298	5,426	5,426	5,426	5,426
Deposits on Service Agreements	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220
Deposits on Broadcast Agreements	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
Other Current Liabilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Current Liabilities	1,607	2,027	2,513	4,322	6,024	7,204	7,714	8,141	8,504	8,717	9,134	9,656	8,236	8,492	8,773	9,083
Current Portion of Long Term Debt:																
GE Performance Incentive	384	424	468	517	572	631	697	571	0	0	0	0	0	0	0	0
Contel / ASC Corp	3,327	4,629	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phillips Credit	91	144	195	248	300	1,032	0	0	0	0	0	0	0	0	0	0
Vendor Debt/Incentive Fee	0	0	0	1,333	1,467	1,613	1,775	1,952	2,147	2,362	2,598	2,858	3,144	0	0	0
Senior Debt	0	0	0	12,536	13,915	15,446	17,145	19,031	21,125	23,448	(0)	0	0	0	0	0
Total Current LT DEBT	3,801	5,197	664	14,635	16,254	18,723	19,617	21,554	23,272	25,810	2,598	2,858	3,144	0	0	0
Long Term Debt (net of current):																
Revolver	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GE Performance Incentive	3,881	3,457	2,988	2,471	1,899	1,268	571	0	0	0	0	0	0	0	0	0
Contel / ASC Corp	4,629	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phillips Credit	1,919	1,775	1,580	1,332	1,032	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Vendor Debt/Incentive Fee	0	7,438	14,875	19,917	18,450	16,837	15,062	13,110	10,962	8,600	6,002	3,144	(0)	(0)	0	0
Senior Debt	0	0	28,569	110,110	96,195	80,749	63,604	44,573	23,448	0	0	0	0	0	0	0
Total Long-Term Debt	10,428	12,669	48,012	133,830	117,576	98,854	79,236	57,682	34,410	8,600	6,002	3,144	(0)	(0)	(0)	(0)
Total Debt	14,229	17,866	48,675	148,465	133,830	117,576	98,854	79,236	57,682	34,410	8,600	6,002	3,144	(0)	(0)	(0)
Deferred Revenues	2,814	2,251	1,688	1,126	563	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Other Liabilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Liabilities	18,650	22,144	52,877	153,912	140,417	124,780	106,568	87,377	66,187	43,128	17,734	15,657	11,380	8,492	8,773	9,083
Partners' Capital	(22,731)	50,729	83,284	95,565	100,666	102,951	104,335	105,810	108,412	112,424	120,022	106,064	94,170	80,832	65,149	56,904
Rene Anselmo Loan	64,550	49,550	44,550	39,550	39,550	39,550	39,550	39,550	39,550	39,550	39,550	39,550	39,550	39,550	39,550	39,550
Total Liabilities and Equity	$60,469	$122,424	$180,711	$289,028	$280,633	$267,282	$250,453	$232,737	$214,149	$195,102	$177,306	$161,271	$145,100	$128,873	$113,472	$105,537
	(0.000)	(0)	(0)	0	(0)	(0)	0	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	(0.000)	0	0	0	(0)	0	0	(0)	0	(0)	0	0	0	0	(0)	(0)

CASH FLOW STATEMENT

SOURCES	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Pre-Tax Book Income	($261)	$8,792	$22,223	$21,537	$42,396	$71,335	$80,288	$86,333	$89,610	$87,331	$90,461	$96,864	$118,624	$117,824	$116,965	$122,202
Depreciation and Amortization	5,097	5,775	6,453	14,344	22,780	23,917	24,269	24,365	24,524	24,541	24,451	23,643	18,800	18,120	17,320	9,881
Cost of Spot Beam Sales	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deferred Revenues	0	(563)	(563)	(563)	(563)	(563)	0	0	0	0	0	0	0	0	0	0
Cash From Operations	4,836	14,005	28,113	35,318	64,614	94,689	104,557	110,698	114,134	111,872	114,912	120,508	137,424	135,944	134,285	132,083
Change in Long Term Receivable	496	496	496	496	496	0	0	0	0	0	0	0	0	0	0	0
Investments and Borrowings																
Equity Contributions	0	49,668	5,332	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendor Debt/Incentive Fee	0	7,438	7,438	6,375	0	0	0	0	0	0	0	0	0	0	0	0
Bank Debt	0	0	28,569	94,078	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	57,105	41,338	100,453	0	0	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	$5,332	$71,606	$69,947	$136,267	$65,109	$94,689	$104,557	$110,698	$114,134	$111,872	$114,912	$120,508	$137,424	$135,944	$134,285	$132,083

CASH FLOW STATEMENT CONT'D

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total Sources of Funds	$5,332	$71,606	$69,947	$136,267	$65,109	$94,689	$104,557	$110,698	$114,134	$111,872	$114,912	$120,508	$137,424	$135,944	$134,285	$132,083
USES																
Change in Working Capital																
Change in Accounts Receivable	$1,725	$1,850	$2,302	$3,405	$7,789	$5,040	$1,527	$990	$544	($361)	$525	$888	$649	$0	$0	$0
Change in Prepaid Expenses	(59)	319	397	588	1,344	870	264	171	94	(62)	91	153	112	0	0	0
Change in Accounts Payable	(487)	(57)	(34)	(1,140)	(173)	(190)	(210)	(232)	(257)	(284)	(314)	(347)	1,547	(256)	(281)	(310)
Change in Accrued Expenses	67	(363)	(452)	(669)	(1,529)	(990)	(300)	(194)	(107)	71	(103)	(174)	(127)	0	0	0
Change in Taxes Payable	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Change in Other Current Liabilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Change in Working Capital	$1,247	$1,749	$2,213	$2,184	$7,432	$4,730	$1,280	$734	$275	($636)	$199	$520	$2,181	($256)	($281)	($310)
Capital Expenditures																
Satellites Construction Costs	$0	$29,750	$29,750	$25,500	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Launch Costs	0	4,560	4,560	28,880	0	0	0	0	0	0	0	0	0	0	0	0
Insurance Costs	0	0	0	25,193	0	0	0	0	0	0	0	0	0	0	0	0
Start Up Expenses	0	3,000	1,500	0	0	0	0	0	0	0	0	0	0	0	0	0
Ground Facility Upgrade	0	0	0	12,000	0	0	0	0	0	0	0	0	0	0	0	0
Fees	0	4,795	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest	0	0	528	3,880	0	0	0	0	0	0	0	0	0	0	0	0
Contingency	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Satellite Costs	$0	$42,105	$36,338	$95,453	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
General Capital Expenditures	600	3,391	3,390	4,454	5,747	4,656	5,650	5,488	5,297	5,917	6,039	6,567	1,868	1,893	1,919	1,945
Total Capital Expenditures	600	45,496	39,728	99,907	5,747	4,656	5,650	5,488	5,297	5,917	6,039	6,567	1,868	1,893	1,919	1,945
Total Uses for Operations	$1,847	$47,246	$41,941	$102,091	$13,179	$9,386	$6,930	$6,222	$5,572	$5,281	$6,238	$7,087	$4,049	$1,637	$1,638	$1,635
Debt Payment	0	15,000	5,000	5,000	0	0	0	0	0	0	0	0	0	0	0	0
Cash Avail. for Debt Repayment	$3,485	$9,360	$23,006	$29,176	$51,931	$85,303	$97,627	$104,476	$108,562	$106,591	$108,674	$113,421	$133,376	$134,307	$132,647	$130,447
Mandatory Principal Repayment																
GE Performance Incentive	$347	$384	$424	$468	$517	$572	$631	$697	$571	$0	$0	$0	$0	$0	$0	$0
Contel/ASC Corp	2,989	3,327	4,629	0	0	0	0	0	0	0	0	0	0	0	0	0
Phillips Credit	38	91	144	195	248	300	1,032	0	0	0	0	0	0	0	0	0
Vendor Debt/Incentive Fee	0	0	0	0	1,333	1,467	1,613	1,775	1,952	2,147	2,362	2,598	2,858	3,144	0	0
Senior Debt	0	0	0	0	12,536	13,915	15,446	17,145	19,031	21,125	23,448	(0)	0	0	0	0
Total Principal Repayment	3,375	3,801	5,197	664	14,635	16,254	18,723	19,617	21,554	23,272	25,810	2,598	2,858	3,144	0	0
Free Cash Flow	$110	$5,559	$17,809	$28,512	$37,296	$69,049	$78,904	$84,858	$87,008	$83,319	$82,864	$110,822	$130,518	$131,163	$132,647	$130,447
Additional Borrowings (Revolver)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Repayment (Revolver)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cash Added to Balance Sheet	110	5,559	17,809	14,256	0	0	0	0	0	0	0	0	0	0	0	0
Cash Flow Available For Dist.	$0	$0	$0	$14,256	$37,296	$69,049	$78,904	$84,858	$87,008	$83,319	$82,864	$110,822	$130,518	$131,163	$132,647	$130,447

COMPANY VALUATION
PAS - 1 ONLY

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Revenues	$15,109	$26,365	$40,368	$48,668	$58,507	$64,706	$64,619	$62,195	$60,178	$58,860	$56,208	$29,673	$0	$0	$0	$0
Expenses	8,498	10,449	10,994	11,706	12,568	13,339	13,881	14,415	14,980	15,645	16,346	15,967	0	0	0	0
Debt Service (Existing Debt)	5,149	5,149	5,895	1,149	1,149	1,149	1,834	793	595	0	0	0	0	0	0	0
Net Pre-Tax Cash Flow	$1,461	$10,767	$23,479	$35,812	$44,790	$50,218	$48,904	$46,987	$44,603	$43,215	$39,862	$13,706	$0	$0	$0	$0
Unleveraged Cash Flow	6,611	15,916	29,374	36,962	45,939	51,367	50,738	47,780	45,198	43,215	39,862	13,706	0	0	0	0

Discounted Cash Flow Analysis:

Pre-Tax Cash Flow

	1991-2000 Total	1991-2000 Unleveraged	1991-2005 Total	1991-2005 Unleveraged
10%	$224,092	$237,727	$228,896	$242,531
15%	176,764	188,969	179,710	191,915
20%	142,461	153,501	144,305	155,345
25%	117,014	127,089	118,192	128,267
30%	97,737	107,001	98,502	107,766
35%	82,853	91,426	83,358	91,930

COMPANY VALUATION

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Cash Flow Available for Distribution	$0	$0	$0	$14,256	$37,296	$69,049	$78,904	$84,858	$87,008	$83,319	$82,864	$110,822	$130,518	$131,163	$132,647	$130,447
L.P. Cash Allocation	0	0	0	4,847	12,681	23,477	26,827	28,852	29,583	28,328	28,174	37,680	44,376	44,595	45,100	44,352
G.P. Cash Allocation	0	0	0	9,409	24,615	45,573	52,077	56,007	57,425	54,990	54,690	73,143	86,142	86,567	87,547	86,095
Unleveraged Cash Flow	5,260	10,708	23,704	29,662	67,931	99,685	110,224	115,137	117,088	112,805	112,350	114,281	133,976	134,621	132,647	130,447

Discounted Cash Flow Analysis:

Pre-Tax Cash Flow

	1991-2000 Total	1991-2000 L.P.	1991-2000 G.P.	1991-2000 Unleveraged	1991-2005 Total	1991-2005 L.P.	1991-2005 G.P.	1991-2005 Unleveraged
10.0%	$275,016	$93,506	$181,511	$426,985	$459,597	$156,263	$303,334	$614,882
15.0%	203,651	69,241	134,410	324,190	307,962	104,707	203,255	430,452
17.5%	176,593	60,041	116,551	284,879	255,843	86,987	168,856	365,640
20.0%	153,859	52,312	101,547	251,656	214,470	72,920	141,550	313,443
22.5%	134,658	45,784	88,874	223,422	181,308	61,645	119,663	270,993
25.0%	118,360	40,242	78,117	199,302	154,483	52,524	101,959	236,150
27.5%	104,459	35,516	68,943	178,591	132,593	45,082	87,511	207,299

TAX INCOME STATEMENT

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Revenues																
PAS 1 Revenues	$15,109	$26,365	$40,368	$48,668	$58,507	$64,706	$64,619	$62,195	$60,178	$58,860	$56,208	$29,673	$0	$0	$0	$0
PAS 2 Revenues	0	0	0	12,415	49,962	74,422	83,798	92,246	97,575	96,698	102,545	134,485	168,106	168,106	168,106	168,106
PAS 3 Revenues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAS 4 Revenues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Revenues	$15,109	$26,365	$40,368	$61,083	$108,469	$139,128	$148,417	$154,441	$157,753	$155,558	$158,753	$164,158	$168,106	$168,106	$168,106	$168,106
Direct Expenses																
PAS 1	$1,465	$2,955	$3,222	$3,485	$3,826	$4,020	$3,922	$3,744	$3,516	$3,298	$3,012	$1,533	$0	$0	$0	$0
PAS 2	0	0	0	4,210	5,044	5,508	5,669	5,782	5,940	6,237	6,671	7,959	9,332	9,023	8,714	8,405
PAS 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAS 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Direct Expenses	$1,465	$2,955	$3,222	$7,695	$8,870	$9,529	$9,591	$9,526	$9,456	$9,535	$9,683	$9,492	$9,332	$9,023	$8,714	$8,405
Net Revenue	$13,643	$23,410	$37,146	$53,388	$99,599	$129,599	$138,826	$144,915	$148,297	$146,023	$149,070	$154,666	$158,774	$159,083	$159,392	$159,701
Operating Expenses																
PAS 1	$7,033	$7,494	$7,772	$8,221	$8,741	$9,318	$9,959	$10,671	$11,464	$12,348	$13,333	$14,435	$0	$0	$0	$0
PAS 2	0	0	0	8,800	9,680	10,648	11,713	12,884	14,172	15,590	17,149	18,864	20,750	22,825	25,107	27,618
PAS 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAS 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Operating Expenses	$7,033	$7,494	$7,772	$17,021	$18,421	$19,966	$21,672	$23,555	$25,637	$27,937	$30,482	$33,298	$20,750	$22,825	$25,107	$27,618
EBDAIT	$6,611	$15,916	$29,374	$36,367	$81,177	$109,633	$117,154	$121,360	$122,660	$118,086	$118,588	$121,368	$138,025	$136,258	$134,285	$132,083
Tax Depreciation & Amortization																
Depreciation & Amortization	$9,038	$9,716	$10,394	$23,435	$36,224	$37,449	$29,185	$29,604	$29,773	$29,807	$18,019	$6,746	$5,416	$4,735	$3,936	$3,117
Cost of Spot Beam Sales	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Depr. & Amort.	$9,038	$9,716	$10,394	$23,435	$36,224	$37,449	$29,185	$29,604	$29,773	$29,807	$18,019	$6,746	$5,416	$4,735	$3,936	$3,117
EBIT	(2,427)	6,200	18,980	12,932	44,953	72,184	87,970	91,755	92,887	88,279	100,568	114,622	132,608	131,523	130,349	128,966
Interest Expense																
GE Performance Incentive	$446	$409	$369	$325	$276	$221	$162	$95	$24	$0	$0	$0	$0	$0	$0	$0
Contel/ASC Corp	1,011	673	116	0	0	0	0	0	0	0	0	0	0	0	0	0
Phillips Credit	318	266	213	161	109	56	9	0	0	0	0	0	0	0	0	0
Vendor Debt/Incentive Fee	0	0	0	0	2,125	1,992	1,845	1,684	1,506	1,311	1,096	860	600	314	0	0
Senior Debt	0	0	0	0	13,491	12,112	10,581	8,882	6,996	4,903	2,579	0	0	0	0	0
Total Interest Expense	$1,774	$1,348	$698	$486	$16,000	$14,382	$12,597	$10,661	$8,527	$6,214	$3,676	$860	$600	$314	$0	$0
Pre-Tax Tax Income	($4,201)	$4,852	$18,282	$12,446	$28,953	$57,802	$75,373	$81,094	$84,361	$82,065	$96,893	$113,762	$132,008	$131,209	$130,349	$128,966

PAS 2, 3 & 4
CONSTRUCTION FUNDING

TOTAL PAS 2, 3 & 4

Uses of Funds	1991	1992	1993	1994	Total
Satellites Construction Costs	$29,750	$29,750	$25,500	$0	$85,000
Launch Costs	4,560	4,560	28,880	0	38,000
Insurance Costs	0	0	25,193	0	25,193
Start Up Expenses	3,000	1,500	0	0	4,500
Ground Facility Upgrade	0	0	12,000	0	12,000
Repayment of Existing Debt	15,000	5,000	5,000	0	25,000
Fees	4,795	0	0	0	4,795
Interest	0	528	3,880	0	4,409
Contingency	0	0	0	0	0
Total	$57,105	$41,338	$100,453	$0	$198,897

Sources of Funds	1991	1992	1993	1994	Total
Equity	$49,668	$5,332	$0	$0	$55,000
Vendor Debt/Incentive Fee	7,438	7,438	6,375	0	21,250
Bank Debt	0	28,569	94,078	0	122,647
Total	$57,105	$41,338	$100,453	$0	$198,897

CAPITAL EXPENDITURES

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
PAS 2, 3 & 4	$0	$57,105	$41,338	$100,453	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Capital Expenditures (Not Financed)	600	3,391	3,390	4,454	5,747	4,656	5,650	5,488	5,297	5,917	6,039	6,567	1,868	1,893	1,919	1,945
Annual Capital Expenditures	$600	$60,496	$44,728	$104,907	$5,747	$4,656	$5,650	$5,488	$5,297	$5,917	$6,039	$6,567	$1,868	$1,893	$1,919	$1,945

WORKING CAPITAL ASSUMPTIONS

Accounts Rec. (Other) (% of Sales)	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%
Days Receivable	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Prepaid Expenses (% of Sales)	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%
Accounts Payable (% of Total Op. Expenses)	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%
Days Payable	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Accrued Expenses (% of Sales)	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
Other Current Liabilities (% of Sales)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

COVERAGE RATIOS	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
EBDAIT	$6,611	$15,916	$29,374	$36,367	$81,177	$109,633	$117,154	$121,360	$122,660	$118,086	$118,588	$121,368	$138,025	$136,258	$134,285	$132,083
Cash Avail. for Debt Repayment	3,485	9,360	23,006	29,176	51,931	85,303	97,627	104,476	108,562	106,591	108,674	113,421	133,376	134,307	132,647	130,447
Capital Expenditures (Not financed)	600	3,391	3,390	4,454	5,747	4,656	5,650	5,488	5,297	5,917	6,039	6,567	1,868	1,893	1,919	1,945
Total Interest	1,774	1,348	698	486	16,000	14,382	12,597	10,661	8,527	6,214	3,676	860	600	314	0	0
Principal Repayment	3,375	3,801	5,197	664	14,635	16,254	18,723	19,617	21,554	23,272	25,810	2,598	2,858	3,144	0	0
Total Debt Service	$5,149	$5,149	$5,895	$1,149	$30,635	$30,635	$31,320	$30,279	$30,081	$29,486	$29,486	$3,458	$3,458	$3,458	$0	$0
EBDAIT / Total Interest	3.7	11.8	42.1	74.9	5.1	7.6	9.3	11.4	14.4	19.0	32.3	141.1	230.0	433.4	NA	NA
EBDAIT / Total Debt Service	1.3	3.1	5.0	31.6	2.6	3.6	3.7	4.0	4.1	4.0	4.0	35.1	39.9	39.4	NA	NA
EBDAIT - Cap Ex. / Total Interest	3.4	9.3	37.2	65.7	4.7	7.3	8.9	10.9	13.8	18.1	30.6	133.5	226.8	427.4	NA	NA
EBDAIT - Cap Ex. / Total Debt Service	1.2	2.4	4.4	27.8	2.5	3.4	3.6	3.8	3.9	3.8	3.8	33.2	39.4	38.9	NA	NA
Cash Available for Debt Repayment / Total Principal Payment	1.0	2.5	4.4	44.0	3.5	5.2	5.2	5.3	5.0	4.6	4.2	43.7	46.7	42.7	NA	NA
DEBT OUTSTANDING																
Vendor Debt/Incentive Fee Outstanding	$0	$7,438	$14,875	$21,250	$19,917	$18,450	$16,837	$15,062	$13,110	$10,962	$8,600	$6,002	$3,144	($0)	$0	$0
% Outstanding	NA	NA	74.7%	106.7%	100.0%	92.6%	84.5%	75.6%	65.8%	55.0%	43.2%	30.1%	15.8%	NA	NA	NA
Senior Debt Outstanding	$0	$0	$28,569	$122,647	$110,110	$96,195	$80,749	$63,604	$44,573	$23,448	$0	$0	$0	$0	$0	$0
% Outstanding	NA	NA	25.9%	111.4%	100.0%	87.4%	73.3%	57.8%	40.5%	21.3%	0.0%	0.0%	NA	NA	NA	NA

MARGIN ANALYSIS

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total Revenues	$15,109	$26,365	$40,368	$61,083	$108,469	$139,128	$148,417	$154,441	$157,753	$155,558	$158,753	$164,158	$168,106	$168,106	$168,106	$168,106
Total Direct Expenses	$1,465	$2,955	$3,222	$7,695	$8,870	$9,529	$9,591	$9,526	$9,456	$9,535	$9,683	$9,492	$9,332	$9,023	$8,714	$8,405
% of Total Revenues	9.7%	11.2%	8.0%	12.6%	8.2%	6.8%	6.5%	6.2%	6.0%	6.1%	6.1%	5.8%	5.6%	5.4%	5.2%	5.0%
Total Operating Expenses	$7,033	$7,494	$7,772	$17,021	$18,421	$19,966	$21,672	$23,555	$25,637	$27,937	$30,482	$33,298	$20,750	$22,825	$25,107	$27,618
% of Total Revenues	46.5%	28.4%	19.3%	27.9%	17.0%	14.4%	14.6%	15.3%	16.3%	18.0%	19.2%	20.3%	12.3%	13.6%	14.9%	16.4%
EBDAIT	$6,611	$15,916	$29,374	$36,367	$81,177	$109,633	$117,154	$121,360	$122,660	$118,086	$118,588	$121,368	$138,025	$136,258	$134,285	$132,083
EBDAIT Margin	43.8%	60.4%	72.8%	59.5%	74.8%	78.8%	78.9%	78.6%	77.8%	75.9%	74.7%	73.9%	82.1%	81.1%	79.9%	78.6%
EBIT	$1,514	$10,141	$22,921	$22,023	$58,397	$85,716	$92,885	$96,995	$98,136	$93,545	$94,137	$97,724	$119,224	$118,139	$116,965	$122,202
EBIT Margin	10.0%	38.5%	56.8%	36.1%	53.8%	61.6%	62.6%	62.8%	62.2%	60.1%	59.3%	59.5%	70.9%	70.3%	69.6%	72.7%
Pre-Tax Book Income	($261)	$8,792	$22,223	$21,537	$42,396	$71,335	$80,288	$86,333	$89,610	$87,331	$90,461	$96,864	$118,624	$117,824	$116,965	$122,202
Pre-Tax Book Income Margin	-1.7%	33.3%	55.1%	35.3%	39.1%	51.3%	54.1%	55.9%	56.8%	56.1%	57.0%	59.0%	70.6%	70.1%	69.6%	72.7%

RETURN ANALYSIS

Limited Partners' Return Analysis																
Cash Flow Avail. for Dist.		$0	$0	$0	$14,256	$37,296	$69,049	$78,904	$84,858	$87,008	$83,319	$82,864	$110,822	$130,518	$131,163	$132,647	$130,447
% of Cash Flow Avail. for Dist. Distributed to LP's		NA	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%
Net Pre-Tax Cash Flow		NA	(49,668)	(5,332)	4,847	12,681	23,477	26,827	28,852	29,583	28,328	28,174	37,680	44,376	44,595	45,100	181,452
Pre-Tax Cash IRR			NA	NA	NA	NA	NA	5.5%	13.5%	18.4%	21.4%	23.4%	25.2%	26.6%	27.6%	28.3%	30.1%
Cumulative Pre-Tax Cash Flow		NA	$0	$0	$4,847	$17,528	$41,004	$67,832	$96,684	$126,266	$154,595	$182,768	$220,448	$264,824	$309,419	$354,519	$398,871
Payback	5.60																
General Partner Return Analysis																
Pre-Tax Cash Flow		NA	$0	$0	$9,409	$24,615	$45,573	$52,077	$56,007	$57,425	$54,990	$54,690	$73,143	$86,142	$86,567	$87,547	$453,038
Cumulative Pre-Tax Cash Flow		NA	$0	$0	$9,409	$34,024	$79,597	$131,674	$187,680	$245,105	$300,096	$354,786	$427,929	$514,070	$600,638	$688,185	$1,141,223

TWO
~~ONE~~ SATELLITE

Current Case: Management
Operating Assump.: Management
Equity Assump. : $110 mm Equity
35 % LP / 65 % GP Cash Allocation

FINANCING ANALYSIS

(S in Thousands)

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OPERATING PROJECTIONS

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
PAS 1 Revenues	$15,109	$26,365	$40,368	$48,668	$58,507	$64,706	$64,619	$62,195	$60,178	$58,860	$56,208	$29,673	$0	$0	$0	$0
PAS 2 Revenues	0	0	0	12,415	49,962	74,422	83,798	92,246	97,575	96,698	102,545	134,485	168,106	168,106	168,106	168,106
PAS 3 Revenues	0	0	0	0	17,829	46,752	76,701	103,065	121,637	131,009	134,614	144,013	156,072	162,436	169,118	176,133
PAS 4 Revenues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Revenues	$15,109	$26,365	$40,368	$61,083	$126,298	$185,880	$225,118	$257,506	$279,390	$286,567	$293,367	$308,171	$324,178	$330,542	$337,224	$344,239
Operating & Direct Expenses	$8,498	$10,449	$10,994	$24,716	$40,193	$43,723	$47,152	$50,840	$54,668	$58,831	$63,438	$68,328	$57,883	$61,570	$65,670	$70,221
EBDAIT	$6,611	$15,916	$29,374	$36,367	$86,105	$142,157	$177,966	$206,666	$224,722	$227,736	$229,929	$239,843	$266,295	$268,972	$271,554	$274,018
Pre-Tax Book Income	($261)	$8,792	$22,223	$21,319	$56,294	$81,279	$119,051	$150,249	$171,010	$177,128	$182,846	$197,376	$232,894	$236,740	$240,661	$251,373
Cash Flow Avail. for Dist.	$0	$0	$0	$14,256	$69,933	$81,886	$119,874	$150,910	$171,079	$176,470	$178,647	$186,799	$254,013	$260,036	$262,591	$271,538

DEBT COVERAGE AND REPAYMENT

EBDAIT / Total Interest	3.7	11.8	42.1	74.9	224.0	5.9	8.2	10.8	13.9	17.4	23.8	41.1	164.5	238.1	458.9	NA
EBDAIT / Total Debt Service	1.3	3.1	5.0	31.6	74.9	3.1	3.8	4.5	5.0	5.1	5.2	5.4	40.9	41.3	41.7	NA
Cash Avail. for Debt Repayment / Total Principal Payment	1.0	2.5	4.4	44.0	92.4	4.8	5.8	6.7	6.9	6.6	6.1	5.8	52.9	49.3	45.4	NA
Total LT Debt Outstanding	$14,229	$21,147	$29,950	$148,040	$223,482	$201,735	$176,925	$150,561	$121,532	$89,977	$54,987	$16,189	$11,298	$5,918	($0)	($0)

PAS 2, 3 & 4 SOURCES AND USES

		1991	1992	1993	1994	Total
Uses of Funds						
Satellites Construction Costs		$42,875	$56,000	$49,875	$11,250	$160,000
Launch Costs		6,840	9,120	33,440	26,600	76,000
Insurance Costs		0	0	25,193	23,145	48,337
Start Up Expenses		3,000	3,000	3,000	0	9,000
Ground Facility Upgrade		0	0	12,000	0	12,000
Repayment of Existing Debt		0	0	0	0	0
Fees		8,050	0	0	0	8,050
Interest		0	0	1,080	15,213	16,293
Contingency		0	0	0	0	0
Total		$60,765	$68,120	$124,588	$76,207	$329,679
Source of Funds						
Equity		$50,046	$54,120	$5,834	$0	$110,000
Vendor Debt/Incentive Fee	10.0% 10 years	10,719	14,000	12,469	2,813	40,000
Bank Debt	11.0% 7 years	0	0	106,285	73,395	179,679
Total		$60,765	$68,120	$124,588	$76,207	$329,679

PARTNERSHIP ALLOCATIONS

L.P. FIRST YEAR OF DISTRIBUTION	1993
ALLOCATION OF CASH FLOW	
L.P.	35.0%
G.P.	65.0%
ALLOCATION OF TAXABLE INCOME	
L.P.	35.0%
G.P.	65.0%

LIMITED PARTNERS' RETURN SUMMARY

	2000	2005
Pre-Tax IRR	22.2%	30.4%
Payback	6.24	Years

GENERAL PARTNER'S VALUATION SUMMARY

	1991-2000	1991-2005
Pre-Tax NPV @ 15%	$226,770	$464,034
After-Tax NPV @ 15%	160,509	354,333

LIMITED PARTNERS' RETURN ANALYSIS

			1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Partnership Economics																	
Cash Flow Avail. for Dist.			$0	$0	$14,256	$69,933	$81,886	$119,874	$150,910	$171,079	$176,470	$178,647	$186,799	$254,013	$260,036	$262,591	$271,538
Pre-Tax Tax Income			4,852	18,282	12,073	38,792	59,896	106,240	137,114	157,866	163,967	181,756	217,083	259,153	262,999	266,920	270,794
Exit Value	(1)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,209,497
Equity Investment by Ltd Ptrs			$50,046	$54,120	$5,834	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Limited Partners' Cash Flow																	
Cash Flow Available for Dist.			$0	$0	$14,256	$69,933	$81,886	$119,874	$150,910	$171,079	$176,470	$178,647	$186,799	$254,013	$260,036	$262,591	$271,538
Allocation of CF Avail. for Dist.	(3)	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
Cash Flow Available for Dist.			0	0	4,990	24,477	28,660	41,956	52,819	59,878	61,764	62,526	65,380	88,904	91,013	91,907	95,038
Allocation of Exit Value		28.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	338,659
Limited Partners' Pre-Tax Tax Income																	
Pre-Tax Tax Income % Allocation	(2)	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
Pre-Tax Tax Income / (Loss)			$1,698	$6,399	$4,225	$13,577	$20,963	$37,184	$47,990	$55,253	$57,389	$63,614	$75,979	$90,703	$92,050	$93,422	$94,778
Limited Partners' Return Analysis																	
Capital Contribution			(50,046)	(54,120)	(5,834)	0	0	0	0	0	0	0	0	0	0	0	0
Cash Flow Dist. to LP's			0	0	4,990	24,477	28,660	41,956	52,819	59,878	61,764	62,526	65,380	88,904	91,013	91,907	433,698
Net Pre-Tax Cash Flow			($50,046)	($54,120)	($845)	$24,477	$28,660	$41,956	$52,819	$59,878	$61,764	$62,526	$65,380	$88,904	$91,013	$91,907	$433,698
Tax Benefit / (Liability)	Tax Rate (4)	40.0%	(679)	(2,560)	(1,690)	(5,431)	(8,385)	(14,874)	(19,196)	(22,101)	(22,955)	(25,446)	(30,392)	(36,281)	(36,820)	(37,369)	(37,911)
Net After-Tax Cash Flow			(50,725)	(56,680)	(2,535)	19,046	20,275	27,082	33,623	37,776	38,809	37,081	34,988	52,623	54,193	54,538	395,786
Net Pre-Tax Cash Flow			($50,046)	($54,120)	($845)	$24,477	$28,660	$41,956	$52,819	$59,878	$61,764	$62,526	$65,380	$88,904	$91,013	$91,907	$433,698
Pre-Tax Cash IRR			NA	NA	NA	NA	NA	NA	8.4%	15.2%	19.5%	22.2%	24.1%	25.9%	27.1%	27.9%	30.4%
Net After-Tax Cash Flow			($50,725)	($56,680)	($2,535)	$19,046	$20,275	$27,082	$33,623	$37,776	$38,809	$37,081	$34,988	$52,623	$54,193	$54,538	$395,786
After-Tax Cash IRR			NA	NA	NA	NA	NA	NA	NA	4.9%	9.4%	12.3%	14.3%	16.3%	17.8%	18.9%	23.3%
Cumulative Pre-Tax Cash Flow			0	0	4,990	29,466	58,126	100,082	152,901	212,779	274,543	337,070	402,449	491,354	582,366	674,273	769,311
Payback	Years	6.24															

(1) Exit Value is equal to 40 % of five times Cash Flow Available for Distribution in 2005 less $800 million for construction and launch of three satellites.
(2) Limited Partners receive 35 % of Cash Flow Available for Disribution and General Partner receives 65 % of Cash Flow Available for Distribution.
(3) Limited Partners are allocated 35 % of Pre-Tax Tax Income.
(4) It is assumed that the Limited Partners are subject to a 40 % tax rate.

GENERAL PARTNER RETURN ANALYSIS

		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Partnership Economics																
Cash Flow Avail. for Dist.		$0	$0	$14,256	$69,933	$81,886	$119,874	$150,910	$171,079	$176,470	$178,647	$186,799	$254,013	$260,036	$262,591	$271,538
Pre-Tax Tax Income		4,852	18,282	12,073	38,792	59,896	106,240	137,114	157,866	163,967	181,756	217,083	259,153	262,999	266,920	270,794
Exit Value		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,209,497
General Partner's Cash Flow																
Allocation of CF Avail. for Dist. (1)	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%
Cash Flow Avail. for Dist.		0	0	9,266	45,457	53,226	77,918	98,092	111,201	114,705	116,121	121,420	165,108	169,023	170,684	176,500
Allocation of Exit Value	72.0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	870,838
General Partner's Pre-Tax Tax Income																
Pre-Tax Tax Income % Allocation (2)	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%
Pre-Tax Tax Income / (Loss)		3,154	11,883	7,847	25,215	38,932	69,056	89,124	102,613	106,579	118,141	141,104	168,449	170,950	173,498	176,016
General Partner's Return Analysis																
Pre-Tax Cash Flow		$0	$0	$9,266	$45,457	$53,226	$77,918	$98,092	$111,201	$114,705	$116,121	$121,420	$165,108	$169,023	$170,684	$1,047,338
Tax Benefit / (Liability) Tax Rate (3)	32.0%	(1,009)	(3,803)	(2,511)	(8,069)	(12,458)	(22,098)	(28,520)	(32,836)	(34,105)	(37,805)	(45,153)	(53,904)	(54,704)	(55,519)	(56,325)
After-Tax Cash Flow		(1,009)	(3,803)	6,755	37,388	40,768	55,820	69,572	78,365	80,600	78,315	76,266	111,204	114,320	115,165	991,013
Cumulative Pre-Tax Cash Flow		0	0	9,266	54,723	107,949	185,867	283,959	395,161	509,866	625,986	747,406	912,514	1,081,538	1,252,222	2,299,559

Discounted Cash Flow Analysis

	1991-2000 Pre-Tax	1991-2000 After-Tax	1991-2005 Pre-Tax	1991-2005 After-Tax
10%	$310,670	$220,010	$750,466	$582,855
15%	226,770	160,509	464,034	354,333
20%	168,991	119,447	300,921	226,160
25%	128,322	90,488	203,747	150,899
30%	99,116	69,659	143,355	104,748
35%	77,753	54,404	104,321	75,276

(1) General Partner receives 65 % of Cash Flow Available for Distribution .
(2) General Partner is allocated 65 % of Pre-Tax Tax Income.
(3) It is assumed that the General Partner is subject to a 32 % tax rate.

SUMMARY OF REVENUE PROJECTIONS

PROJECTED PAS 1 Spot Beam Sales	'88-'89	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Executed Contracts	$12,476	$2,983	$2,977	$2,964	$2,949	$2,931	$2,216	$2,020	$520	$0	$0	$0	$0	$0	$0	$0	$0
New Contracts	0	250	2,146	3,519	3,503	3,487	3,467	2,479	2,070	2,070	2,070	2,070	2,070	0	0	0	0
Total Projected Revenues	$12,476	$3,233	$5,123	$6,483	$6,452	$6,418	$5,683	$4,499	$2,590	$2,070	$2,070	$2,070	$2,070	$0	$0	$0	$0
% Growth	NA	-74.1%	58.5%	26.5%	-0.5%	-0.5%	-11.5%	-20.8%	-42.4%	-20.1%	0.0%	0.0%	0.0%	NA	NA	NA	NA
% of Total PAS 1	72.6%	21.4%	19.4%	16.1%	13.3%	11.0%	8.8%	7.0%	4.2%	3.4%	3.5%	3.7%	7.0%	NA	NA	NA	NA
Broadcast Services																	
Executed Contracts	$4,309	$9,116	$8,391	$7,066	$7,137	$6,895	$6,864	$6,964	$6,959	$4,880	$4,200	$4,200	$2,100	$0	$0	$0	$0
New Contracts	0	634	7,499	12,026	10,752	10,741	10,922	10,872	10,877	12,956	13,856	13,856	5,539	0	0	0	0
Total Projected Revenues	$4,309	$9,750	$15,890	$19,092	$17,889	$17,636	$17,786	$17,836	$17,836	$17,836	$18,056	$18,056	$7,639	$0	$0	$0	$0
% Growth	NA	126.2%	63.0%	20.2%	-6.3%	-1.4%	0.9%	0.3%	0.0%	0.0%	1.2%	0.0%	-57.7%	NA	NA	NA	NA
% of Total PAS 1	25.1%	64.5%	60.3%	47.3%	36.8%	30.1%	27.5%	27.6%	28.7%	29.6%	30.7%	32.1%	25.7%	NA	NA	NA	NA
Data Services																	
Executed Contracts	$389	$1,785	$2,094	$1,308	$940	$487	$315	$119	$119	$70	$0	$0	$0	$0	$0	$0	$0
New Contracts	0	341	3,258	13,485	23,387	33,966	40,922	42,165	41,650	40,202	38,734	36,082	19,964	0	0	0	0
Total Projected Revenues	$389	$2,126	$5,352	$14,793	$24,327	$34,453	$41,237	$42,284	$41,769	$40,272	$38,734	$36,082	$19,964	$0	$0	$0	$0
% Growth	NA	446.7%	151.7%	176.4%	64.4%	41.6%	19.7%	2.5%	-1.2%	-3.6%	-3.8%	-6.8%	-44.7%	NA	NA	NA	NA
% of Total PAS 1	2.3%	14.1%	20.3%	36.6%	50.0%	58.9%	63.7%	65.4%	67.2%	66.9%	65.8%	64.2%	67.3%	NA	NA	NA	NA
TOTAL REVENUE PAS 1	$17,174	$15,109	$26,365	$40,368	$48,668	$58,507	$64,706	$64,619	$62,195	$60,178	$58,860	$56,208	$29,673	$0	$0	$0	$0
% Growth	NA	-12.0%	74.5%	53.1%	20.6%	20.2%	10.6%	-0.1%	-3.8%	-3.2%	-2.2%	-4.5%	-47.2%	NA	NA	NA	NA
% of Total Revenues - PAS 1, 2, 3 & 4	100.0%	100.0%	100.0%	100.0%	79.7%	46.3%	34.8%	28.7%	24.2%	21.5%	20.5%	19.2%	9.6%	0.0%	0.0%	0.0%	0.0%

REVENUE SUMMARY CONT'D

PROJECTED PAS 2	'88-'89	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Spot Beam Sales	$0	$0	$0	$0	$4,000	$17,000	$26,000	$26,000	$26,000	$22,000	$9,000	$0	$0	$0	$0	$0	$0
% Growth	NA	NA	NA	NA	NA	325.0%	52.9%	0.0%	0.0%	-15.4%	-59.1%	-100.0%	NA	NA	NA	NA	NA
% of Total PAS 2	NA	NA	NA	NA	32.2%	34.0%	34.9%	31.0%	28.2%	22.5%	9.3%	NA	NA	NA	NA	NA	NA
Broadcast Services	0	0	0	0	6,300	26,400	35,400	37,900	38,400	38,400	38,400	38,400	38,400	38,400	38,400	38,400	38,400
% Growth	NA	NA	NA	NA	NA	319.0%	34.1%	7.1%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
% of Total PAS 2	NA	NA	NA	NA	50.7%	52.8%	47.6%	45.2%	41.6%	39.4%	39.7%	37.4%	28.6%	22.8%	22.8%	22.8%	22.8%
Data Services	0	0	0	0	2,115	6,562	13,022	19,898	27,846	37,175	49,298	64,145	96,085	129,706	129,706	129,706	129,706
% Growth	NA	NA	NA	NA	NA	210.3%	98.4%	52.8%	39.9%	33.5%	32.6%	30.1%	49.8%	35.0%	0.0%	0.0%	NM
% of Total PAS 2	NA	NA	NA	NA	17.0%	13.1%	17.5%	23.7%	30.2%	38.1%	51.0%	62.6%	71.4%	77.2%	77.2%	77.2%	77.2%
TOTAL REVENUES PAS 2	$0	$0	$0	$0	$12,415	$49,962	$74,422	$83,798	$92,246	$97,575	$96,698	$102,545	$134,485	$168,106	$168,106	$168,106	$168,106
% Growth	NA	NA	NA	NA	NA	302.4%	49.0%	12.6%	10.1%	5.8%	-0.9%	6.0%	31.1%	25.0%	0.0%	0.0%	0.0%
% of Total Revenues - PAS 1, 2, 3 & 4	0.0%	0.0%	0.0%	0.0%	20.3%	39.6%	40.0%	37.2%	35.8%	34.9%	33.7%	35.0%	43.6%	51.9%	50.9%	49.8%	48.8%

PROJECTED PAS 3																	
Spot Beam Sales	$0	$0	$0	$0	$0	$6,200	$18,200	$28,600	$33,200	$33,200	$27,000	$15,000	$4,600	$0	$0	$0	$0
% Growth	NA	NA	NA	NA	NA	NA	193.5%	57.1%	16.1%	0.0%	-18.7%	-44.4%	-69.3%	-100.0%	NA	NA	NA
% of Total PAS 3	NA	NA	NA	NA	NA	34.8%	38.9%	37.3%	32.2%	27.3%	20.6%	11.1%	3.2%	NA	NA	NA	NA
Broadcast Services	$0	$0	$0	$0	$0	$8,100	$14,700	$22,300	$27,700	$28,800	$28,800	$28,800	$28,800	$28,800	$28,800	$28,800	$28,800
% Growth	NA	NA	NA	NA	NA	NA	81.5%	51.7%	24.2%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
% of Total PAS 3	NA	NA	NA	NA	NA	45.4%	31.4%	29.1%	26.9%	23.7%	22.0%	21.4%	20.0%	18.5%	17.7%	17.0%	16.4%
Data Services	$0	$0	$0	$0	$0	$3,529	$13,852	$25,801	$42,165	$59,637	$75,209	$90,814	$110,613	$127,272	$133,636	$140,318	$147,333
% Growth	NA	NA	NA	NA	NA	NA	292.5%	86.3%	63.4%	41.4%	26.1%	20.7%	21.8%	15.1%	5.0%	5.0%	5.0%
% of Total PAS 3	NA	NA	NA	NA	NA	19.8%	29.6%	33.6%	40.9%	49.0%	57.4%	67.5%	76.8%	81.5%	82.3%	83.0%	83.6%
TOTAL REVENUES PAS 3	$0	$0	$0	$0	$0	$17,829	$46,752	$76,701	$103,065	$121,637	$131,009	$134,614	$144,013	$156,072	$162,436	$169,118	$176,133
% Growth	NA	NA	NA	NA	NA	NA	162.2%	64.1%	34.4%	18.0%	7.7%	2.8%	7.0%	8.4%	4.1%	4.1%	4.1%
% of Total Revenues - PAS 1, 2, 3 & 4	0.0%	0.0%	0.0%	0.0%	0.0%	14.1%	25.2%	34.1%	40.0%	43.5%	45.7%	45.9%	46.7%	48.1%	49.1%	50.2%	51.2%

PROJECTED PAS 4	'88-'89	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Spot Beam Leases	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
% Growth	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
% of Total PAS 4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Broadcast Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
% Growth	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
% of Total PAS 4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Data Services	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
% Growth	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
% of Total PAS 4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL REVENUES PAS 4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
% Growth	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
% of Total Revenues - PAS 1, 2, 3 & 4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

PROJECTED REVENUE TOTALS

	'88-'89	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Spot Beam Sales																	
PAS 1	$12,476	$3,233	$5,123	$6,483	$6,452	$6,418	$5,683	$4,499	$2,590	$2,070	$2,070	$2,070	$2,070	$0	$0	$0	$0
PAS 2	0	0	0	0	4,000	17,000	26,000	26,000	26,000	22,000	9,000	0	0	0	0	0	0
PAS 3	0	0	0	0	0	6,200	18,200	28,600	33,200	33,200	27,000	15,000	4,600	0	0	0	0
PAS 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	$12,476	$3,233	$5,123	$6,483	$10,452	$29,618	$49,883	$59,099	$61,790	$57,270	$38,070	$17,070	$6,670	$0	$0	$0	$0
% of Total Revenues - PAS 1, 2, 3 & 4	72.6%	21.4%	19.4%	16.1%	17.1%	23.5%	26.8%	26.3%	24.0%	20.5%	13.3%	5.8%	2.2%	0.0%	0.0%	0.0%	0.0%
Broadcast Services																	
PAS 1	$4,309	$9,750	$15,890	$19,092	$17,889	$17,636	$17,786	$17,836	$17,836	$17,836	$18,056	$18,056	$7,639	$0	$0	$0	$0
PAS 2	0	0	0	0	6,300	26,400	35,400	37,900	38,400	38,400	38,400	38,400	38,400	38,400	38,400	38,400	38,400
PAS 3	0	0	0	0	0	8,100	14,700	22,300	27,700	28,800	28,800	28,800	28,800	28,800	28,800	28,800	28,800
PAS 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	$4,309	$9,750	$15,890	$19,092	$24,189	$52,136	$67,886	$78,036	$83,936	$85,036	$85,256	$85,256	$74,839	$67,200	$67,200	$67,200	$67,200
% of Total Revenues - PAS 1, 2, 3 & 4	25.1%	64.5%	60.3%	47.3%	39.6%	41.3%	36.5%	34.7%	32.6%	30.4%	29.8%	29.1%	24.3%	20.7%	20.3%	19.9%	19.5%
Data Services																	
PAS 1	$389	$2,126	$5,352	$14,793	$24,327	$34,453	$41,237	$42,284	$41,769	$40,272	$38,734	$36,082	$19,964	$0	$0	$0	$0
PAS 2	0	0	0	0	2,115	6,562	13,022	19,898	27,846	37,175	49,298	64,145	96,085	129,706	129,706	129,706	129,706
PAS 3	0	0	0	0	0	3,529	13,852	25,801	42,165	59,637	75,209	90,814	110,613	127,272	133,636	140,318	147,333
PAS 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	$389	$2,126	$5,352	$14,793	$26,442	$44,544	$68,111	$87,983	$111,780	$137,084	$163,241	$191,041	$226,662	$256,978	$263,342	$270,024	$277,039
% of Total Revenues - PAS 1, 2, 3 & 4	2.3%	14.1%	20.3%	36.6%	43.3%	35.3%	36.6%	39.1%	43.4%	49.1%	57.0%	65.1%	73.6%	79.3%	79.7%	80.1%	80.5%
Projected PAS 1, 2, 3 & 4																	
TOTAL REVENUES PAS 1, 2, 3 & 4	$17,174	$15,109	$26,365	$40,368	$61,083	$126,298	$185,880	$225,118	$257,506	$279,390	$286,567	$293,367	$308,171	$324,178	$330,542	$337,224	$344,239
% Growth	NA	-12.0%	74.5%	53.1%	51.3%	106.8%	47.2%	21.1%	14.4%	8.5%	2.6%	2.4%	5.0%	5.2%	2.0%	2.0%	2.1%

BOOK INCOME STATEMENT

Revenues	'88-'89	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
PAS 1 Revenues	$17,174	$15,109	$26,365	$40,368	$48,668	$58,507	$64,706	$64,619	$62,195	$60,178	$58,860	$56,208	$29,673	$0	$0	$0	$0
PAS 2 Revenues	0	0	0	0	12,415	49,962	74,422	83,798	92,246	97,575	96,698	102,545	134,485	168,106	168,106	168,106	168,106
PAS 3 Revenues	0	0	0	0	0	17,829	46,752	76,701	103,065	121,637	131,009	134,614	144,013	156,072	162,436	169,118	176,133
PAS 4 Revenues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Revenues	$17,174	$15,109	$26,365	$40,368	$61,083	$126,298	$185,880	$225,118	$257,506	$279,390	$286,567	$293,367	$308,171	$324,178	$330,542	$337,224	$344,239
Direct Expenses																	
PAS 1	$1,091	$1,465	$2,955	$3,222	$3,485	$3,826	$4,020	$3,922	$3,744	$3,516	$3,298	$3,012	$1,533	$0	$0	$0	$0
PAS 2	0	0	0	0	4,210	5,044	5,508	5,669	5,782	5,940	6,237	6,671	7,959	9,332	9,023	8,714	8,405
PAS 3	0	0	0	0	0	4,101	4,548	5,241	6,046	6,691	7,186	7,683	8,389	8,938	8,973	9,023	9,090
PAS 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Direct Expenses	$1,091	$1,465	$2,955	$3,222	$7,695	$12,972	$14,076	$14,832	$15,572	$16,147	$16,721	$17,366	$17,881	$18,270	$17,995	$17,737	$17,496
Net Revenue	$16,083	$13,643	$23,410	$37,146	$53,388	$113,326	$171,804	$210,286	$241,934	$263,243	$269,846	$276,001	$290,290	$305,908	$312,547	$319,487	$326,743
Operating Expenses																	
PAS 1	$6,909	$7,033	$7,494	$7,772	$8,221	$8,741	$9,318	$9,959	$10,671	$11,464	$12,348	$13,333	$14,435	$0	$0	$0	$0
PAS 2	0	0	0	0	8,800	9,680	10,648	11,713	12,884	14,172	15,590	17,149	18,864	20,750	22,825	25,107	27,618
PAS 3	0	0	0	0	0	8,800	9,680	10,648	11,713	12,884	14,172	15,590	17,149	18,864	20,750	22,825	25,107
PAS 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Operating Expenses	$6,909	$7,033	$7,494	$7,772	$17,021	$27,221	$29,646	$32,320	$35,268	$38,521	$42,110	$46,072	$50,447	$39,614	$43,575	$47,932	$52,726
EBDAIT	$9,174	$6,611	$15,916	$29,374	$36,367	$86,105	$142,157	$177,966	$206,666	$224,722	$227,736	$229,929	$239,843	$266,295	$268,972	$271,554	$274,018
Book Depreciation & Amortization																	
Depreciation & Amortization	$6,421	$5,097	$5,775	$6,453	$14,562	$29,427	$36,836	$37,251	$37,347	$37,506	$37,523	$37,433	$36,625	$31,782	$31,102	$30,302	$22,645
Cost of Spot Beam Sales	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Depr. & Amort	$6,421	$5,097	$5,775	$6,453	$14,562	$29,427	$36,836	$37,251	$37,347	$37,506	$37,523	$37,433	$36,625	$31,782	$31,102	$30,302	$22,645
EBIT	2,753	1,514	10,141	22,921	21,805	56,678	105,321	140,715	169,319	187,216	190,213	192,497	203,218	234,513	237,870	241,253	251,373
Interest Expense																	
GE Performance Incentive	$603	$446	$409	$369	$325	$276	$221	$162	$95	$24	$0	$0	$0	$0	$0	$0	$0
Contel/ASC Corp.	1,324	1,011	673	116	0	0	0	0	0	0	0	0	0	0	0	0	0
Phillips Credit	196	318	266	213	161	109	56	9	0	0	0	0	0	0	0	0	0
Vendor Debt/Incentive Fee	0	0	0	0	0	0	4,000	3,749	3,473	3,169	2,835	2,468	2,064	1,619	1,130	592	0
Senior Debt	0	0	0	0	0	0	19,765	17,744	15,502	13,013	10,250	7,183	3,779	0	0	0	0
Total Interest Expense	$2,124	$1,774	$1,348	$698	$486	$384	$24,043	$21,664	$19,070	$16,206	$13,085	$9,651	$5,842	$1,619	$1,130	$592	$0
Pre-Tax Book Income	$629	($261)	$8,792	$22,223	$21,319	$56,294	$81,279	$119,051	$150,249	$171,010	$177,128	$182,846	$197,376	$232,894	$236,740	$240,661	$251,373

BALANCE SHEET

ASSETS	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Current:																	
Cash	$2,020	$2,130	$7,689	$25,499	$39,755	$39,755	$39,755	$39,755	$39,755	$39,755	$39,755	$39,755	$39,755	$39,755	$39,755	$39,755	$39,755
Accounts Receivable:																	
Current Portion of Long Term	377	377	377	377	377	377	377	377	377	377	377	377	377	377	377	377	377
Other	758	2,484	4,334	6,636	10,041	20,761	30,556	37,006	42,330	45,927	47,107	48,225	50,658	53,290	54,336	55,434	56,587
Prepaid Expenses	487	429	748	1,145	1,733	3,583	5,273	6,386	7,305	7,926	8,129	8,322	8,742	9,196	9,377	9,566	9,765
Total Current Assets	3,643	5,420	13,148	33,657	51,906	64,476	75,961	83,524	89,767	93,985	95,368	96,679	99,532	102,618	103,844	105,132	106,484
Long Term Receivable	2,478	1,982	1,487	991	496	0	0	0	0	0	0	0	0	0	0	0	0
Property & Equipment	63,674	64,274	128,430	199,940	328,981	410,936	415,592	421,242	426,730	432,027	437,944	443,983	450,550	452,418	454,311	456,230	458,175
Less: Depr. and Amort	6,485	11,582	17,357	23,810	38,372	67,798	104,634	141,885	179,232	216,738	254,261	291,694	328,319	360,101	391,203	421,505	444,149
Net Property and Equipment	57,189	52,692	111,073	176,129	290,609	343,137	310,957	279,356	247,497	215,289	183,683	152,289	122,231	92,317	63,108	34,725	14,025
Other Assets:																	
Notes Receivable	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deposits	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325
Investments, @ Cost	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Total Other Assets	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375	375
Total Assets	$63,685	$60,469	$126,083	$211,152	$343,386	$407,988	$387,293	$363,255	$337,639	$309,648	$279,426	$249,343	$222,138	$195,309	$167,327	$140,232	$120,885

BALANCE SHEET

LIABILITIES AND EQUITY

Current Liabilities:	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Accounts Payable	$380	$867	$924	$958	$2,098	$3,356	$3,655	$3,985	$4,348	$4,749	$5,192	$5,680	$6,219	$4,884	$5,372	$5,909	$6,500
Accrued Expenses	554	488	851	1,303	1,972	4,076	5,999	7,266	8,311	9,018	9,249	9,469	9,947	10,463	10,669	10,884	11,111
Deposits on Service Agreements	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220
Deposits on Broadcast Agreements	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
Other Current Liabilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Current Liabilities	1,187	1,607	2,027	2,513	4,322	7,684	9,907	11,503	12,911	14,019	14,693	15,401	16,418	15,599	16,293	17,046	17,863
Current Portion of Long Term Debt:																	
GE Performance Incentive	347	384	424	468	517	572	631	697	571	0	0	0	0	0	0	0	0
Contel / ASC Corp	2,989	3,327	4,629	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phillips Credit	38	91	144	195	248	300	1,032	0	0	0	0	0	0	0	0	0	0
Vendor Debt/Incentive Fee	0	0	0	0	0	2,510	2,761	3,037	3,341	3,675	4,042	4,446	4,891	5,380	5,918	0	0
Senior Debt	0	0	0	0	0	18,366	20,386	22,629	25,118	27,881	30,948	34,352	0	0	0	0	0
Total Current LT DEBT	3,375	3,801	5,197	664	765	21,747	24,810	26,363	29,029	31,555	34,990	38,798	4,891	5,380	5,918	0	0
Long Term Debt (net of current):																	
Revolver	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GE Performance Incentive	4,264	3,881	3,457	2,988	2,471	1,899	1,268	571	0	0	0	0	0	0	0	0	0
Contel / ASC Corp	7,956	4,629	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phillips Credit	2,009	1,919	1,775	1,580	1,332	1,032	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Vendor Debt/Incentive Fee	0	0	10,719	24,719	37,188	37,490	34,729	31,693	28,352	24,677	20,635	16,189	11,298	5,918	0	0	0
Senior Debt	0	0	0	0	106,285	161,313	140,927	118,299	93,181	65,300	34,352	(0)	(0)	0	0	0	0
Total Long-Term Debt	14,229	10,428	15,950	29,287	147,275	201,735	176,925	150,561	121,532	89,977	54,987	16,189	11,298	5,918	(0)	(0)	(0)
Total Debt	17,604	14,229	21,147	29,950	148,040	223,482	201,735	176,925	150,561	121,532	89,977	54,987	16,189	11,298	5,918	(0)	(0)
Deferred Revenues	2,814	2,814	2,251	1,688	1,126	563	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Other Liabilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Liabilities	21,605	18,650	25,425	34,152	153,488	231,730	211,641	188,427	163,473	135,551	104,670	70,388	32,607	26,897	22,211	17,045	17,863
Partners' Capital	(22,470)	(22,731)	36,107	112,450	125,348	111,708	111,101	110,278	109,616	109,547	110,206	114,405	124,981	103,862	80,566	58,637	38,472
Rene Anselmo Loan	64,550	64,550	64,550	64,550	64,550	64,550	64,550	64,550	64,550	64,550	64,550	64,550	64,550	64,550	64,550	64,550	64,550
Total Liabilities and Equity	$63,685	$60,469	$126,083	$211,152	$343,386	$407,988	$387,293	$363,255	$337,639	$309,648	$279,426	$249,343	$222,138	$195,309	$167,327	$140,232	$120,885
	0.000	(0.000)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
		(0.000)	0	0	(0)	0	0	0	0	0	0	(0)	(0)	0	(0)	(0)	0

CASH FLOW STATEMENT

SOURCES	'88-'89	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Pre-Tax Book Income	$629	($261)	$8,792	$22,223	$21,319	$56,294	$81,279	$119,051	$150,249	$171,010	$177,128	$182,846	$197,376	$232,894	$236,740	$240,661	$251,373
Depreciation and Amortization	6,421	5,097	5,775	6,453	14,562	29,427	36,836	37,251	37,347	37,506	37,523	37,433	36,625	31,782	31,102	30,302	22,645
Cost of Spot Beam Sales	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Deferred Revenues	0	0	(563)	(563)	(563)	(563)	(563)	0	0	0	0	0	0	0	0	0	0
Cash From Operations	7,050	4,836	14,005	28,113	35,318	85,158	117,552	156,302	187,595	208,516	214,651	220,279	234,001	264,676	267,842	270,963	274,018
Change in Long Term Receivable	0	496	496	496	496	496	0	0	0	0	0	0	0	0	0	0	0
Investments and Borrowings																	
Equity Contributions	0	0	50,046	54,120	5,834	0	0	0	0	0	0	0	0	0	0	0	0
Vendor Debt/Incentive Fee	0	0	10,719	14,000	12,469	2,813	0	0	0	0	0	0	0	0	0	0	0
Bank Debt	0	0	0	0	106,285	73,395	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	60,765	68,120	124,588	76,207	0	0	0	0	0	0	0	0	0	0	0
Total Sources of Funds	$7,050	$5,332	$75,265	$96,729	$160,401	$161,861	$117,552	$156,302	$187,595	$208,516	$214,651	$220,279	$234,001	$264,676	$267,842	$270,963	$274,018

CASH FLOW STATEMENT CONT'D

	'88-'89	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total Sources of Funds	$7,050	$5,332	$75,265	$96,729	$160,401	$161,861	$117,552	$156,302	$187,595	$208,516	$214,651	$220,279	$234,001	$264,676	$267,842	$270,963	$274,018
USES																	
Change in Working Capital																	
Change in Accounts Receivable	$0	$1,725	$1,850	$2,302	$3,405	$10,720	$9,794	$6,450	$5,324	$3,597	$1,180	$1,118	$2,434	$2,631	$1,046	$1,098	$1,153
Change in Prepaid Expenses	0	(59)	319	397	588	1,850	1,690	1,113	919	621	204	193	420	454	181	190	199
Change in Accounts Payable	0	(487)	(57)	(34)	(1,140)	(1,258)	(299)	(330)	(363)	(401)	(443)	(488)	(539)	1,336	(488)	(537)	(591)
Change in Accrued Expenses	0	67	(363)	(452)	(669)	(2,105)	(1,923)	(1,266)	(1,045)	(706)	(232)	(219)	(478)	(517)	(205)	(216)	(226)
Change in Taxes Payable	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Change in Other Current Liabilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Change in Working Capital	$0	$1,247	$1,749	$2,213	$2,184	$9,208	$9,262	$5,967	$4,834	$3,111	$709	$603	$1,836	$3,904	$533	$535	$535
Capital Expenditures																	
Satellites Construction Costs	$0	$0	$42,875	$56,000	$49,875	$11,250	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Launch Costs	0	0	6,840	9,120	33,440	26,600	0	0	0	0	0	0	0	0	0	0	0
Insurance Costs	0	0	0	0	25,193	23,145	0	0	0	0	0	0	0	0	0	0	0
Start Up Expenses	0	0	3,000	3,000	3,000	0	0	0	0	0	0	0	0	0	0	0	0
Ground Facility Upgrade	0	0	0	0	12,000	0	0	0	0	0	0	0	0	0	0	0	0
Fees	0	0	8,050	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest	0	0	0	0	1,080	15,213	0	0	0	0	0	0	0	0	0	0	0
Contingency	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Satellite Costs	$0	$0	$60,765	$68,120	$124,588	$76,207	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
General Capital Expenditures	0	600	3,391	3,390	4,454	5,747	4,656	5,650	5,488	5,297	5,917	6,039	6,567	1,868	1,893	1,919	1,945
Total Capital Expenditures	0	600	64,156	71,510	129,042	81,954	4,656	5,650	5,488	5,297	5,917	6,039	6,567	1,868	1,893	1,919	1,945
Total Uses for Operations	$0	$1,847	$65,905	$73,723	$131,226	$91,162	$13,918	$11,617	$10,322	$8,408	$6,626	$6,642	$8,403	$5,772	$2,426	$2,454	$2,480
Debt Payment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cash Avail. for Debt Repayment	$7,050	$3,485	$9,360	$23,006	$29,176	$70,698	$103,634	$144,685	$177,273	$200,108	$208,025	$213,637	$225,598	$258,904	$265,416	$268,509	$271,538
Mandatory Principal Repayment																	
GE Performance Incentive	$388	$347	$384	$424	$468	$517	$572	$631	$697	$571	$0	$0	$0	$0	$0	$0	$0
Contel/ASC Corp	4,426	2,989	3,327	4,629	0	0	0	0	0	0	0	0	0	0	0	0	0
Phillips Credit	(5)	38	91	144	195	248	300	1,032	0	0	0	0	0	0	0	0	0
Vendor Debt/Incentive Fee	0	0	0	0	0	0	2,510	2,761	3,037	3,341	3,675	4,042	4,446	4,891	5,380	5,918	0
Senior Debt	0	0	0	0	0	0	18,366	20,386	22,629	25,118	27,881	30,948	34,352	0	0	0	0
Total Principal Repayment	4,809	3,375	3,801	5,197	664	765	21,747	24,810	26,363	29,029	31,555	34,990	38,798	4,891	5,380	5,918	0
Free Cash Flow	$2,241	$110	$5,559	$17,809	$28,512	$69,933	$81,886	$119,874	$150,910	$171,079	$176,470	$178,647	$186,799	$254,013	$260,036	$262,591	$271,538
Additional Borrowings (Revolver)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Repayment (Revolver)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cash Added to Balance Sheet	0	110	5,559	17,809	14,256	0	0	0	0	0	0	0	0	0	0	0	0
Cash Flow Available For Dist.	$2,241	$0	$0	$0	$14,256	$69,933	$81,886	$119,874	$150,910	$171,079	$176,470	$178,647	$186,799	$254,013	$260,036	$262,591	$271,538

COMPANY VALUATION
PAS - 1 ONLY

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Revenues	$15,109	$26,365	$40,368	$48,668	$58,507	$64,706	$64,619	$62,195	$60,178	$58,860	$56,208	$29,673	$0	$0	$0	$0
Expenses	8,498	10,449	10,994	11,706	12,568	13,339	13,881	14,415	14,980	15,645	16,346	15,967	0	0	0	0
Debt Service (Existing Debt)	5,149	5,149	5,895	1,149	1,149	1,149	1,834	793	595	0	0	0	0	0	0	0
Net Pre-Tax Cash Flow	$1,461	$10,767	$23,479	$35,812	$44,790	$50,218	$48,904	$46,987	$44,603	$43,215	$39,862	$13,706	$0	$0	$0	$0
Unleveraged Cash Flow	6,611	15,916	29,374	36,962	45,939	51,367	50,738	47,780	45,198	43,215	39,862	13,706	0	0	0	0

Discounted Cash Flow Analysis:

Pre-Tax Cash Flow

	1991-2000 Total	1991-2000 Unleveraged	1991-2005 Total	1991-2005 Unleveraged
10%	$224,092	$237,727	$228,896	$242,531
15%	176,764	188,969	179,710	191,915
20%	142,461	153,501	144,305	155,345
25%	117,014	127,089	118,192	128,267
30%	97,737	107,001	98,502	107,766
35%	82,853	91,426	83,358	91,930

COMPANY VALUATION

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Cash Flow Available for Distribution	$0	$0	$0	$14,256	$69,933	$81,886	$119,874	$150,910	$171,079	$176,470	$178,647	$186,799	$254,013	$260,036	$262,591	$271,538
L.P. Cash Allocation	0	0	0	4,990	24,477	28,660	41,956	52,819	59,878	61,764	62,526	65,380	88,904	91,013	91,907	95,038
G.P. Cash Allocation	0	0	0	9,266	45,457	53,226	77,918	98,092	111,201	114,705	116,121	121,420	165,108	169,023	170,684	176,500
Unleveraged Cash Flow	5,260	10,708	23,704	29,662	71,083	127,676	166,349	196,344	216,314	221,110	223,288	231,440	260,522	266,546	269,100	271,538

Discounted Cash Flow Analysis:

Pre-Tax Cash Flow

	1991-2000 Total	1991-2000 L.P.	1991-2000 G.P.	1991-2000 Unleveraged	1991-2005 Total	1991-2005 L.P.	1991-2005 G.P.	1991-2005 Unleveraged
10.0%	$477,954	$167,284	$310,670	$654,864	$833,838	$291,843	$541,995	$1,032,068
15.0%	348,876	122,107	226,770	485,348	549,250	192,237	357,012	698,511
17.5%	300,429	105,150	195,279	421,414	452,387	158,335	294,051	583,367
20.0%	259,987	90,995	168,991	367,869	375,998	131,599	244,398	491,733
22.5%	226,047	79,116	146,931	322,777	315,180	110,313	204,867	418,113
25.0%	197,419	69,096	128,322	284,604	266,318	93,211	173,107	358,430
27.5%	173,152	60,603	112,549	252,126	226,723	79,353	147,370	309,627

TAX INCOME STATEMENT

	'88-'89	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Revenues																	
PAS 1 Revenues	$17,174	$15,109	$26,365	$40,368	$48,668	$58,507	$64,706	$64,619	$62,195	$60,178	$58,860	$56,208	$29,673	$0	$0	$0	$0
PAS 2 Revenues	0	0	0	0	12,415	49,962	74,422	83,798	92,246	97,575	96,698	102,545	134,485	168,106	168,106	168,106	168,106
PAS 3 Revenues	0	0	0	0	0	17,829	46,752	76,701	103,065	121,637	131,009	134,614	144,013	156,072	162,436	169,118	176,133
PAS 4 Revenues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Revenues	$17,174	$15,109	$26,365	$40,368	$61,083	$126,298	$185,880	$225,118	$257,506	$279,390	$286,567	$293,367	$308,171	$324,178	$330,542	$337,224	$344,239
Direct Expenses																	
PAS 1	$1,091	$1,465	$2,955	$3,222	$3,485	$3,826	$4,020	$3,922	$3,744	$3,516	$3,298	$3,012	$1,533	$0	$0	$0	$0
PAS 2	0	0	0	0	4,210	5,044	5,508	5,669	5,782	5,940	6,237	6,671	7,959	9,332	9,023	8,714	8,405
PAS 3	0	0	0	0	0	4,101	4,548	5,241	6,046	6,691	7,186	7,683	8,389	8,938	8,973	9,023	9,090
PAS 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Direct Expenses	$1,091	$1,465	$2,955	$3,222	$7,695	$12,972	$14,076	$14,832	$15,572	$16,147	$16,721	$17,366	$17,881	$18,270	$17,995	$17,737	$17,496
Net Revenue	$16,083	$13,643	$23,410	$37,146	$53,388	$113,326	$171,804	$210,286	$241,934	$263,243	$269,846	$276,001	$290,290	$305,908	$312,547	$319,487	$326,743
Operating Expenses																	
PAS 1	$6,909	$7,033	$7,494	$7,772	$8,221	$8,741	$9,318	$9,959	$10,671	$11,464	$12,348	$13,333	$14,435	$0	$0	$0	$0
PAS 2	0	0	0	0	8,800	9,680	10,648	11,713	12,884	14,172	15,590	17,149	18,864	20,750	22,825	25,107	27,618
PAS 3	0	0	0	0	0	8,800	9,680	10,648	11,713	12,884	14,172	15,590	17,149	18,864	20,750	22,825	25,107
PAS 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Operating Expenses	$6,909	$7,033	$7,494	$7,772	$17,021	$27,221	$29,646	$32,320	$35,268	$38,521	$42,110	$46,072	$50,447	$39,614	$43,575	$47,932	$52,726
EBDAIT	$9,174	$6,611	$15,916	$29,374	$36,367	$86,105	$142,157	$177,966	$206,666	$224,722	$227,736	$229,929	$239,843	$266,295	$268,972	$271,554	$274,018
Tax Depreciation & Amortization																	
Depreciation & Amortization	$8,922	$9,038	$9,716	$10,394	$23,808	$46,929	$58,219	$50,062	$50,481	$50,650	$50,684	$38,523	$16,918	$5,523	$4,843	$4,043	$3,224
Cost of Spot Beam Sales	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Depr. & Amort	$8,922	$9,038	$9,716	$10,394	$23,808	$46,929	$58,219	$50,062	$50,481	$50,650	$50,684	$38,523	$16,918	$5,523	$4,843	$4,043	$3,224
EBIT	252	(2,427)	6,200	18,980	12,559	39,176	83,938	127,904	156,185	174,072	177,052	191,406	222,925	260,772	264,129	267,512	270,794
Interest Expense																	
GE Performance Incentive	$603	$446	$409	$369	$325	$276	$221	$162	$95	$24	$0	$0	$0	$0	$0	$0	$0
Contel/ASC Corp	1,324	1,011	673	116	0	0	0	0	0	0	0	0	0	0	0	0	0
Phillips Credit	196	318	266	213	161	109	56	9	0	0	0	0	0	0	0	0	0
Vendor Debt/Incentive Fee	0	0	0	0	0	0	4,000	3,749	3,473	3,169	2,835	2,468	2,064	1,619	1,130	592	0
Senior Debt	0	0	0	0	0	0	19,765	17,744	15,502	13,013	10,250	7,183	3,779	0	0	0	0
Total Interest Expense	$2,124	$1,774	$1,348	$698	$486	$384	$24,043	$21,664	$19,070	$16,206	$13,085	$9,651	$5,842	$1,619	$1,130	$592	$0
Pre-Tax Tax Income	($1,872)	($4,201)	$4,852	$18,282	$12,073	$38,792	$59,896	$106,240	$137,114	$157,866	$163,967	$181,756	$217,083	$259,153	$262,999	$266,920	$270,794

PAS 2, 3 & 4
CONSTRUCTION FUNDING

TOTAL PAS 2, 3 & 4

Uses of Funds	1991	1992	1993	1994	Total
Satellites Construction Costs	$42,875	$56,000	$49,875	$11,250	$160,000
Launch Costs	6,840	9,120	33,440	26,600	76,000
Insurance Costs	0	0	25,193	23,145	48,337
Start Up Expenses	3,000	3,000	3,000	0	9,000
Ground Facility Upgrade	0	0	12,000	0	12,000
Repayment of Existing Debt	0	0	0	0	0
Fees	8,050	0	0	0	8,050
Interest	0	0	1,080	15,213	16,293
Contingency	0	0	0	0	0
Total	$60,765	$68,120	$124,588	$76,207	$329,679

Sources of Funds	1991	1992	1993	1994	Total
Equity	$50,046	$54,120	$5,834	$0	$110,000
Vendor Debt/Incentive Fee	10,719	14,000	12,469	2,813	40,000
Bank Debt	0	0	106,285	73,395	179,679
Total	$60,765	$68,120	$124,588	$76,207	$329,679

CAPITAL EXPENDITURES

	'88-'89	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
PAS 2, 3 & 4	$0	$0	$60,765	$68,120	$124,588	$76,207	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Capital Expenditures (Not Financed)	0	600	3,391	3,390	4,454	5,747	4,656	5,650	5,488	5,297	5,917	6,039	6,567	1,868	1,893	1,919	1,945
Annual Capital Expenditures	$0	$600	$64,156	$71,510	$129,042	$81,954	$4,656	$5,650	$5,488	$5,297	$5,917	$6,039	$6,567	$1,868	$1,893	$1,919	$1,945

WORKING CAPITAL ASSUMPTIONS

Accounts Rec. (Other) (% of Sales)	4.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%	16.4%
Days Receivable	16	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Prepaid Expenses (% of Sales)	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%
Accounts Payable (% of Total Op. Expenses)	5.5%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%	12.3%
Days Payable	20	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
Accrued Expenses (% of Sales)	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
Other Current Liabilities (% of Sales)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

COVERAGE RATIOS	'88-'89	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
EBDAIT	$9,174	$6,611	$15,916	$29,374	$36,367	$86,105	$142,157	$177,966	$206,666	$224,722	$227,736	$229,929	$239,843	$266,295	$268,972	$271,554	$274,018
Cash Avail. for Debt Repayment	7,050	3,485	9,360	23,006	29,176	70,698	103,634	144,685	177,273	200,108	208,025	213,637	225,598	258,904	265,416	268,509	271,538
Capital Expenditures (Not financed)	0	600	3,391	3,390	4,454	5,747	4,656	5,650	5,488	5,297	5,917	6,039	6,567	1,868	1,893	1,919	1,945
Total Interest	2,124	1,774	1,348	698	486	384	24,043	21,664	19,070	16,206	13,085	9,651	5,842	1,619	1,130	592	0
Principal Repayment	4,809	3,375	3,801	5,197	664	765	21,747	24,810	26,363	29,029	31,555	34,990	38,798	4,891	5,380	5,918	0
Total Debt Service	$6,933	$5,149	$5,149	$5,895	$1,149	$1,149	$45,790	$46,474	$45,433	$45,235	$44,641	$44,641	$44,641	$6,510	$6,510	$6,510	$0
EBDAIT / Total Interest	4.3	3.7	11.8	42.1	74.9	224.0	5.9	8.2	10.8	13.9	17.4	23.8	41.1	164.5	238.1	458.9	NA
EBDAIT / Total Debt Service	1.3	1.3	3.1	5.0	31.6	74.9	3.1	3.8	4.5	5.0	5.1	5.2	5.4	40.9	41.3	41.7	NA
EBDAIT - Cap Ex. / Total Interest	4.3	3.4	9.3	37.2	65.7	209.1	5.7	8.0	10.5	13.5	17.0	23.2	39.9	163.3	236.4	455.6	NA
EBDAIT - Cap Ex. / Total Debt Service	1.3	1.2	2.4	4.4	27.8	69.9	3.0	3.7	4.4	4.9	5.0	5.0	5.2	40.6	41.0	41.4	NA
Cash Available for Debt Repayment / Total Principal Payment	1.5	1.0	2.5	4.4	44.0	92.4	4.8	5.8	6.7	6.9	6.6	6.1	5.8	52.9	49.3	45.4	NA
DEBT OUTSTANDING																	
Vendor Debt/Incentive Fee Outstanding	$0	$0	$10,719	$24,719	$37,188	$40,000	$37,490	$34,729	$31,693	$28,352	$24,677	$20,635	$16,189	$11,298	$5,918	$0	$0
% Outstanding	NA	NA	NA	61.8%	93.0%	100.0%	93.7%	86.8%	79.2%	70.9%	61.7%	51.6%	40.5%	28.2%	14.8%	0.0%	NA
Senior Debt Outstanding	$0	$0	$0	$0	$106,285	$179,679	$161,313	$140,927	$118,299	$93,181	$65,300	$34,352	($0)	$0	$0	$0	$0
% Outstanding	NA	NA	NA	NA	59.2%	100.0%	89.8%	78.4%	65.8%	51.9%	36.3%	19.1%	0.0%	NA	NA	NA	NA

MARGIN ANALYSIS

	'88-'89	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Total Revenues	$17,174	$15,109	$26,365	$40,368	$61,083	$126,298	$185,880	$225,118	$257,506	$279,390	$286,567	$293,367	$308,171	$324,178	$330,542	$337,224	$344,239
Total Direct Expenses	$1,091	$1,465	$2,955	$3,222	$7,695	$12,972	$14,076	$14,832	$15,572	$16,147	$16,721	$17,366	$17,881	$18,270	$17,995	$17,737	$17,496
% of Total Revenues	6.4%	9.7%	11.2%	8.0%	12.6%	10.3%	7.6%	6.6%	6.0%	5.8%	5.8%	5.9%	5.8%	5.6%	5.4%	5.3%	5.1%
Total Operating Expenses	$6,909	$7,033	$7,494	$7,772	$17,021	$27,221	$29,646	$32,320	$35,268	$38,521	$42,110	$46,072	$50,447	$39,614	$43,575	$47,932	$52,726
% of Total Revenues	40.2%	46.5%	28.4%	19.3%	27.9%	21.6%	15.9%	14.4%	13.7%	13.8%	14.7%	15.7%	16.4%	12.2%	13.2%	14.2%	15.3%
EBDAIT	$9,174	$6,611	$15,916	$29,374	$36,367	$86,105	$142,157	$177,966	$206,666	$224,722	$227,736	$229,929	$239,843	$266,295	$268,972	$271,554	$274,018
EBDAIT Margin	53.4%	43.8%	60.4%	72.8%	59.5%	68.2%	76.5%	79.1%	80.3%	80.4%	79.5%	78.4%	77.8%	82.1%	81.4%	80.5%	79.6%
EBIT	$2,753	$1,514	$10,141	$22,921	$21,805	$56,678	$105,321	$140,715	$169,319	$187,216	$190,213	$192,497	$203,218	$234,513	$237,870	$241,253	$251,373
EBIT Margin	16.0%	10.0%	38.5%	56.8%	35.7%	44.9%	56.7%	62.5%	65.8%	67.0%	66.4%	65.6%	65.9%	72.3%	72.0%	71.5%	73.0%
Pre-Tax Book Income	$629	($261)	$8,792	$22,223	$21,319	$56,294	$81,279	$119,051	$150,249	$171,010	$177,128	$182,846	$197,376	$232,894	$236,740	$240,661	$251,373
Pre-Tax Book Income Margin	3.7%	-1.7%	33.3%	55.1%	34.9%	44.6%	43.7%	52.9%	58.3%	61.2%	61.8%	62.3%	64.0%	71.8%	71.6%	71.4%	73.0%

RETURN ANALYSIS

Limited Partners' Return Analysis

Cash Flow Avail. for Dist.	$2,241	$0	$0	$0	$14,256	$69,933	$81,886	$119,874	$150,910	$171,079	$176,470	$178,647	$186,799	$254,013	$260,036	$262,591	$271,538
% of Cash Flow Avail. for Dist. Distributed to LP's	NA	NA	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
Net Pre-Tax Cash Flow	NA	NA	(50,046)	(54,120)	(845)	24,477	28,660	41,956	52,819	59,878	61,764	62,526	65,380	88,904	91,013	91,907	433,698
Pre-Tax Cash IRR			NA	NA	NA	NA	NA	NA	8.4%	15.2%	19.5%	22.2%	24.1%	25.9%	27.1%	27.9%	30.4%
Cumulative Pre-Tax Cash Flow	NA	NA	$0	$0	$4,990	$29,466	$58,126	$100,082	$152,901	$212,779	$274,543	$337,070	$402,449	$491,354	$582,366	$674,273	$769,311
Payback	6.24 Years																

General Partner Return Analysis

Pre-Tax Cash Flow	NA	NA	$0	$0	$9,266	$45,457	$53,226	$77,918	$98,092	$111,201	$114,705	$116,121	$121,420	$165,108	$169,023	$170,684	$1,047,338
Cumulative Pre-Tax Cash Flow	NA	NA	$0	$0	$9,266	$54,723	$107,949	$185,867	$283,959	$395,161	$509,866	$625,986	$747,406	$912,514	$1,081,538	$1,252,222	$2,299,559

ALPHA LYRACOM
SPACE COMMUNICATIONS

FACSIMILE MESSAGE SHEET

Fax: 203/622-9163

TO: MR. TOM WHITEHEAD
CLAY T. WHITEHEAD ASSOCIATES

Date: 3/28/91 No. of Pages 5

FROM: TOM CARROUX
703-847-8804

IF TRANSMISSION IS INCOMPLETE, PLEASE CALL 203/622-6664.

Message: THE COST ANALYSIS IS SIMPLE: AMMAR WILL BE ADDING TO IT. EXHIBIT 2 REFERS TO COSTING METHODOLOGY SO I'M SENDING IT TO YOU AS WELL.

Tom

COST ANALYSIS

Overview

This cost analysis is divided into two categories, Direct and Operating Expenses and Service Costs, and is based on Alpha Lyracom's experience in the Atlantic Ocean with PAS-1.
Direct and Operating Expenses are presented as separate line items in the book income statement. Service costs are embedded in the revenue projections. IDS Service Costs are differentiated regarding the use of fiber or earth stations.

Direct and Operating Expenses

Direct Expenses are the sum of transmission costs and in-orbit insurance costs for each satellite. Transmission costs are calculated as a percentage of broadcast service and data service revenues and are an approximation of the third party costs incurred in providing these services. In-orbit insurance costs are a function of the insured value of each satellite, its remaining in-orbit life, and prevailing insurance market premium rates. Operating expenses are the overhead costs incurred in operating the Partnership.

Service Costs

Service Costs for all services, except IDS Services, are identical in all markets.

IDS Services

Service Costs are determined for four circuit rates: 64 kbps, 128 kbps, 512 kbps and T-1 kbps. Service Costs in the AOR differ in two regions: South America and Western Europe. The South America region assumes a fiber optic charge which decreases 1.5% per annum while operating costs in Western Europe assume service out of customer earth stations for which no costs are associated. Costs for all other regions are assumed to conform to the South America model.

South American Fiber Optic Charges

circuits	64 kbps	128 kbps	512 kbps	T-1
cost $	2,040	2,880	7,920	21,600

Each 64 kbps IDS circuit has associated capital expenditures of $14,000 for U.S. teleport equipment (modem, UC/DC rack and multiplexer) which is amortized over five years and projected to remain flat.

EXHIBIT 2

FINANCIAL PROJECTIONS

The Financial Projections include projected financial statements for the Partnership, including a balance sheet, cash flow statement and income statements, detailed analysis of the Strategic Partners' returns and a summary of the sources and uses of financing for the construction of PAS-2, PAS-3 and PAS-4. More detailed information on the projections is available to potential strategic investors on a confidential basis.

The Financing Analysis includes the following sections:

A. Summary

This page includes a summary of operating projections and debt repayment analysis for the years 1990 through 2005. The 1990 figures are based on actual and projected results, whereas the 1991 to 2005 figures are based on projections.

The operating figures included on this page are total revenues (by region), total expenses (the sum of operating and direct expenses), earnings before depreciation, amortization, interest, and taxes ("EBDAIT", i.e., operating cash flow), pre-tax book income, and cash available for distribution to equity.

The debt coverage and repayment analyses provided include the ratio of EBDAIT to total interest payment as well as to total debt service. The ratio of cash available for debt repayment to total principal payment is also provided. Cash available for debt repayment is effectively cash generated from operations net of working capital requirements and capital expenditures (not financed).

The summary also shows the sources and uses of financing for the construction of PAS-2, PAS-3 and PAS-4. Capitalized construction costs include satellites costs, launch costs, insurance, ground station upgrade costs, repayment of existing debt, start-up expenses, financing fees, interest during construction and a contingency provision.

The General and Strategic Partners benefits allocation structure is shown in the partnership allocations summary. Cash flow available for distribution will be allocated in a 50%/50% ratio between the Strategic Partners and the General Partner, respectively. Pre-tax income and pre-tax book income will be allocated in a 50%/50% ratio, as well, between the Strategic Partners and the General Partner, respectively.

The Strategic Partners' return summary includes the Strategic Partners' pre-tax internal rate of return for the year 2005.

B. Strategic Partner Return Analysis

The Strategic Partners' return analysis shows the Strategic Partners' equity investment and net allocation of cash flow available for distribution and pre-tax tax income for the years 1991 to 2005. From this information the Strategic Partners' pre-tax cash flow net of investment and pre-tax internal rate of return as of the end of each year is calculated.

The Strategic Partners are also assumed to receive a cash payment in the year 2005 equal to 40% of the assumed exit value. The exit value is equal to five times cash flow available for distribution in 2005 less $800 million for construction of four satellites.

C. Financial Statements

Financial statements for the Partnership are provided for the years 1990 to 2005. 1990 statements are based on actual and projected results whereas the 1991 to 2005 figures are based on projections.

Financial statements provided include:

i) Book Income Statement;
ii) Balance Sheet; and
iii) Cash Flow Statement.

OP.
EXP.

i) Book Income Statement

Revenues, direct expenses and operating expenses are presented in the book income statement. Direct expenses are the sum of transmission costs and in-orbit insurance costs for each satellite. Transmission costs are calculated as a percentage of broadcast service and data service revenues and are an approximation of the third party costs incurred in providing these services. In-orbit insurance costs are a function of the insured value of each satellite, its remaining in-orbit life, and prevailing insurance market premium rates. Operating expenses are the overhead costs incurred in operating the Partnership.

The depreciation and amortization expense is based on book depreciation lives for the Partnership's satellites and other capital equipment. Interest expense for existing debt as well as debt assumed for the construction of PAS-2, PAS-3 and PAS-4 comprise the Partnership's total projected interest expense.

The revenue projections used for purposes of the book income statement are based on projected cash inflows from contracts for satellite services. To the extent that the service and payment terms for Spot Beam Sales/Service Agreements do not match, i.e., the service is to be provided for a longer (or shorter) period than the period over which the Partnership will receive payment for the service, the revenue projections would need to be adjusted for revenue deferral. Revenues would be calculated by spreading the cumulative cash payments over the term of the service provision. The net effect of this adjustment would be to reduce book earnings in the years in which the cash payments are received if the payment term is shorter than the service term. A portion of the payments under Spot Beam Sales/Service Agreement may be structured in the aforementioned manner. However, as the payment terms for each contract are negotiated on a case by case basis, it is difficult to project the impact of this adjustment, although some impact is expected.

ii) Balance Sheet

Assets on the balance sheet are divided into (i) current assets including cash, accounts receivable and prepaid expenses; (ii) long-term receivables; (iii) property and equipment net of accumulated depreciation; and (iv) other assets.

Liabilities on the balance sheet include: (i) current liabilities including accounts payable and accrued expenses; (ii) current portion of long-term debt; (iii) long-term debt; and (iv) other liabilities.

iii) Cash Flow Statement

The cash flow statement is presented on two pages as sources of cash and uses of cash. The total sources of cash consist primarily of cash from operations, and equity investments and debt funding. The uses of cash include changes in working capital, capital expenditures and payment of principal. Total sources of cash less total uses of cash, is equal to the cash flow available for distribution. It is assumed that all cash flow available for distribution is distributed to the partners after 1993. All of the free cash flow generated the years 1990, 1991 and 1992 and 50% of the free cash flow generated in 1993 is added to the balance sheet.

D. Margin Analysis and Return Analysis

The margin analysis shows a number of significant operating projections as a percentage of total projected revenues. These include total direct expenses, total operating expenses, EBDAIT, book earnings before interest and taxes ("EBIT"), and pre-tax book income.

2 DOCUMENTS WITHHELD FROM PRODUCTION
ATTORNEY CLIENT PRIVILEGE

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ALPHA LYRACOM
SPACE COMMUNICATIONS

March 29, 1991

TO: Tom Whitehead
via fax: 703-847-8804

FROM: Doug Goldschmidt

SUBJECT: Comsat Markups of Intelsat Rates

	Monthly Intelsat Rate	Monthly Comsat Rate	Comsat Mark-up
Voice Grade Circuit[1]	$340	$545	60.29%
T1 IBS Data Circuit[2]	7,500	9,620	28.27%
Video Channel[3]	15,000	21,055	40.37%

[1] Compandered FDM Circuit, month-to-month lease, using Standard A earth station.

[2] R1/2 FEC, five year lease.

[3] 18 MHz channel, simplex hemi beam, seven year lease.

Post-It™ brand fax transmittal memo 7671 | # of pages ▸ 5

To ~~T Whitehead~~	From FAL
Co. Roger Robinson	Co.
Dept. EVI	Phone #
Fax #	Fax # 202-466-3079

ALPHA
SPACE COM

March 28, 1991

Mr. Thomas D. Willardson / Charlie Snyder.
Principal
Bechtel Investments, Inc.
50 Fremont Street - Suite 3700
San Francisco, CA 94105

Dear Tom:

Gerry Gorman at DLJ asked Alpha Lyracom to send you our comparison of Alpha Lyracom and Orion. We believe that after reading this document, the differences between an operating company such as Alpha Lyracom and a proposed system such as Orion will be clear to you. In addition, we believe the Global Satellite Venture has a number of features which may make it much more attractive to Bechtel Investments than an investment in Orion.

Firstly, from what we can glean from disclosed information about the Orion venture, Orion will be acting as manager of the venture but will have only limited rights to the transponder. Hence the business and scope of Orion's interest will be limited. The enormous upside of the satellite communications business will accrue to the limited partners who control the bulk of the transponders.

Secondly, Alpha Lyracom is only looking for one partner in each of Europe, the U.S., Japan and Asia. The potential for conflict and internal competition is minimized. this is in contrast to Orion with six or more partners just serving the Atlantic, where such problems are bound to occur. For instance, British Aerospace is applying for communication service licenses throughout Europe.

Thirdly, Orion has tied its venture to untested satellite technology to be built by it's partners. It's hard to control a partner's construction timetable and costs on a mass-produced satellite, let alone a custom satellite.

At the end of the day we believe the Orion venture will be successfully launched and we take them seriously as a potential competitor. However, we think our experience in the satellite services market and the very competitive costs of our new satellites will give us a substantial edge in that competition.

Sincerely,

Frederick A. Landman
President

FAL:mf

ALPHA LYRACOM

Comparison of Alpha Lyracom's Global Satellite Venture and Orion

Coverage Areas

	Alpha Lyracom	Orion
Current Coverage Area	Europe/North America Latin America, Caribbean	None
Planned Coverage Area	Global: -Europe/North America -Latin America, Caribbean -Pacific Rim/Oceania -Middle East -Central Asia/USSR -North & East Africa	-Europe/U.S. -NW Africa

Existing Fixed Uplinks

-Homestead, Fl. Master Station -N.Y. Gateway -Costa Rica Gateway -Contel Federal Systems -Department of State (under construction) -Department of Defense (under construction) -Pittsburgh Teleport (Pittsburgh & Germany) -British Telecom Teleport (London Docklands) [partial listing]	None (only Intelsat facilities)

ALPHA LYRACOM

Comparison of Alpha Lyracom's Global Satellite Venture and Orion

Transponder Costs

	Alpha Lyracom	Orion
Average in orbit cost per transponder	$4.0 million	$7.3 million

Transponders per satellite

	PAS-1:	Orion 1&2:
C-band	18	
Ku-band	6	34
	PAS 2&3:	
C-band	18	
Ku-band	6	

ALPHA LYRACOM

Comparison of Alpha Lyracom's Global Satellite Venture and Orion

Landing Rights

	Alpha Lyracom	Orion
North America	Western Europe	
Mexico	Austria	United Kingdom
United States	Belgium	United States
	Denmark	
Central America	France	
Belize	Germany	
Costa Rica	Greece	
Guatemala	Italy	
Honduras	Luxemborg	
Panama	Monaco	
	Netherlands	
South America	Portugal	
Argentina	Spain	
Bolivia	Sweden	
Brazil	Switzerland	
Chile	United Kingdom	
Colombia	Yugoslavia	
Ecuador		
Guyana	Eastern Europe	
Peru	Albania	
Paraguay	Bulgaria	
Suriname	Czechoslovakia	
Uruguay	Hungary	
Venezuela	Poland	
	Romania	
Caribbean	Soviet Union	
Antigua & Barbuda		
Aruba		
Bahamas		
Barbados		
Dominica		
Dominican Republic		
Grenada		
Haiti		
Netherlands Antilles		
St. Kitts & Nevis		
St. Lucia		
St. Vincent & Grenadines		
Trinidad and Tobago		
U.K. Territories		
In approval process	Canada	
In discussion	Japan	Taiwan	Hong Kong
	Singapore	Korea	Australia

ALPHA LYRACOM

Comparison of Alpha Lyracom's Global Satellite Venture and Orion

Customers

	Alpha Lyracom	Orion
Transponder Sales Customers	Channel 2 Peru Channel 4 Peru Channel 13 Peru Compania de Telefono de Chile Empresa Hondurena de Telecom Omnivision Telecinema Television Federal S.A. Television Nacional de Chile	Limited Partner who will use capacity for third party service
Major Broadcast Customers	ABC, NBC, BBC, CNN, ESPN, Galavision, HBO, NHK, RAI, TNT, VOA, TELEN S.A., EBU, RTB	None
Major Private Digital Leased Services	UNOCAL,EDS, Citibank, Sita, Volvo, US Dept. of Defense, Reuters, Citibank	EDS, leased services via Intelsat

ALPHA LYRACOM
SPACE COMMUNICATIONS

FACSIMILE MESSAGE SHEET

Fax: 203/622-9163

TO: TOM WHITEHEAD
703 - 847-8804

Date: 4/8 No. of Pages 3

FROM: EAL

IF TRANSMISSION IS INCOMPLETE, PLEASE CALL 203/622-6664.

Message: Please call to discuss

March 4, 1991

TO: Mr. Anselmo, Fred, & Patricio

FROM: Marco & Tom

TRIP REPORT: EDS & The Army/Air Force Exchange Service

EDS

Meeting with Scott Ford- Manager, Technical Infrastructure Services and Gerald V. Bolton- Manager, Synercom Graphics Engineering

EDS is opportunity. BIG opportunity. EDS' corporate mission is to grow from a $6 billion revenue company into a $25 billion revenue company by the year 2000. Growth in the domestic market is flat. This means that EDS must become a global company to attain its mission. In order to become a global company, EDS must be provided with reliable overseas telecommunications.

Scott Ford has been charged with the following mandates:

1) connect the domestic EDS network with the rest of the world
2) assist clients build private telecommunication infrastructures
3) expand Technical Infrastructure Services (TIS) overseas.

TIS is responsible for EDS worldwide telecommunications. However, TIS lost responsibility for telecommunications in Mexico, Canada and western Europe. Strategic Business Units (SBU's) in these areas would not wait for TIS to provide private telecommunication networks. TIS control of the EDS telecommunications network is eroding. Scott Ford needs to provide foreign SBU's with telecommunication networks or face additional loss in responsibility, manpower, prestige, clout...

In August, TIS must present to the EDS Leadership Council (top management) with a plan to develop global telecommunications. Scott Ford is aware of the benefits and applications of satellite technology. Scott Ford is not a Vice President and therefore cannot present a global satellite venture to the Leadership Council. Clay Johnson is a Vice President who not only can, but must present some sort of proposal to the Leadership Council or risk jeopardizing his career. You see, Clay Johnson has no staff, no underlying responsibility. Perhaps his mandate is to find new business opportunities. Clay Johnson is the person to enlist as the champion of the global satellite venture within the EDS organization. Luckily, Clay Johnson is "a satellite weeny."

ACTION PLAN

1) invite Clay Johnson and the President of VideoStar (EDS subsidiary for whom we provide space segment for videoconferencing) to

Greenwich and enlist their enthusiasm.

2) implement a specific project with TIS as tangible proof that a) satellite technology enables EDS to quickly provide data processing capability to overseas customers; and B) Alpha Lyracom delivers results. A number of Latin American projects were discussed before focusing on developing a satellite link from Caracas Venezuela to Plano Texas.

* EDS will ship and install a 7.1 fully redundant C-band Intelsat qualified earth station to Caracas and provide Homestead with modems.

* Alpha Lyracom will provide EDS with space segment and remote monitoring from Homestead.

* Deadline: 3 months.

Initially, data is transmitted from Caracas to Homestead to Plano Texas. In Plano EDS has 4 Information Processing Centers which would be used to analyze data for customers in Venezuela. This enables EDS to offer the full menu of EDS services without having to invest in a Venezuelan Information Processing Center.

As traffic and revenue builds, EDS will develop a Information Processing Center in Caracas and route the data directly to Plano.

CONCLUSION

This is a win-win situation that warrants top priority. EDS is able to provide customers with data processing using a fully amortized earth station. Alpha Lyracom will generate space segment revenue. This begins a relationship. EDS could become the anchor tenant for data the way CNN is for broadcast. EDS has contracts totaling hundreds of million of dollars in Latin America alone.

If this develops, Alpha Lyracom should seriously consider canceling the plans to build a second back-up teleport in Florida. A back-up teleport in Plano offers the following benefits:

* **Lower cost.** EDS would provide equipment.
* **Integration with ongoing EDS operations.** Daily operation with EDS personnel is the best way to learn of new business opportunities within EDS. In addition, Alpha Lyracom staff would be exposed to the latest developments in data technology.
* **Marketing credibility.** A back-up teleport in Plano operated with EDS confers upon Alpha Lyracom a "Good Housekeeping Seal of Approval." This would make it easier for our sales staff to generate new business.

March 4, 1991

TO: Mr. Anselmo, Fred, & Patricio

FROM: Marco & Tom

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* Alpha Lyracom will provide EDS with space segment and remote monitoring from Homestead.

* Deadline: 3 months.

Initially, data is transmitted from Caracas to Homestead to Plano Texas. In Plano EDS has 4 Information Processing Centers which would be used to analyze data for customers in Venezuela. This enables EDS to offer the full menu of EDS services without having to invest in a Venezuelan Information Processing Center.

As traffic and revenue builds, EDS will develop a Information Processing Center in Caracas and route the data directly to Plano.

CONCLUSION

This is a win-win situation that warrants top priority. EDS is able to provide customers with data processing using a fully amortized earth station. Alpha Lyracom will generate space segment revenue. This begins a relationship. EDS could become the anchor tenant for data the way CNN is for broadcast. EDS has contracts totaling hundreds of million of dollars in Latin America alone.

If this develops, Alpha Lyracom should seriously consider canceling the plans to build a second back-up teleport in Florida. A back-up teleport in Plano offers the following benefits:

* **Lower cost.** EDS would provide equipment.
* **Integration with ongoing EDS operations.** Daily operation with EDS personnel is the best way to learn of new business opportunities within EDS. In addition, Alpha Lyracom staff would be exposed to the latest developments in data technology.
* **Marketing credibility.** A back-up teleport in Plano operated with EDS confers upon Alpha Lyracom a "Good Housekeeping Seal of Approval." This would make it easier for our sales staff to generate new business.

ARMY/AIR FORCE EXCHANGE SERVICE

Meeting with Bob Harper- VSAT Manager and Jim Spiren- Director of Communications

1) will evaluate the proposal in terms of cost and respond back to Alpha Lyracom within 3 weeks. Enthusiastic about the project. Total cost of approximately $1.5 million did not faze them.

2) arrange for a pilot demonstration in Puerto Rico, Europe or Dallas.

3) forewarned that the contract process will be slow.

March 4, 1991

TO: Mr. Anselmo, Fred, & Patricio

FROM: Marco & Tom

TRIP REPORT: EDS & The Army/Air Force Exchange Service

EDS

Meeting with Scott Ford- Manager, Technical Infrastructure Services and Gerald V. Bolton- Manager, Synercom Graphics Engineering

EDS is opportunity. BIG opportunity. EDS' corporate mission is to grow from a $6 billion revenue company into a $25 billion revenue company by the year 2000. Growth in the domestic market is flat. This means that EDS must become a global company to attain its mission. In order to become a global company, EDS must be provided with reliable overseas telecommunications.

Scott Ford has been charged with the following mandates:

1) connect the domestic EDS network with the rest of the world
2) assist clients build private telecommunication infrastructures
3) expand Technical Infrastructure Services (TIS) overseas.

TIS is responsible for EDS worldwide telecommunications. However, TIS lost responsibility for telecommunications in Mexico, Canada and western Europe. Strategic Business Units (SBU's) in these areas would not wait for TIS to provide private telecommunication networks. TIS control of the EDS telecommunications network is eroding. Scott Ford needs to provide foreign SBU's with telecommunication networks or face additional loss in responsibility, manpower, prestige, clout...

In August, TIS must present to the EDS Leadership Council (top management) with a plan to develop global telecommunications. Scott Ford is aware of the benefits and applications of satellite technology. Scott Ford is not a Vice President and therefore cannot present a global satellite venture to the Leadership Council. Clay Johnson is a Vice President who not only can, but must present some sort of proposal to the Leadership Council or risk jeopardizing his career. You see, Clay Johnson has no staff, no underlying responsibility. Perhaps his mandate is to find new business opportunities. Clay Johnson is the person to enlist as the champion of the global satellite venture within the EDS organization. Luckily, Clay Johnson is "a satellite weeny."

ACTION PLAN

1) invite Clay Johnson and the President of VideoStar (EDS subsidiary for whom we provide space segment for videoconferencing) to

Greenwich and enlist their enthusiasm.

2) implement a specific project with TIS as tangible proof that a) satellite technology enables EDS to quickly provide data processing capability to overseas customers; and B) Alpha Lyracom delivers results. A number of Latin American projects were discussed before focusing on developing a satellite link from Caracas Venezuela to Plano Texas.

* EDS will ship and install a 7.1 fully redundant C-band Intelsat qualified earth station to Caracas and provide Homestead with modems.

* Alpha Lyracom will provide EDS with space segment and remote monitoring from Homestead.

* Deadline: 3 months.

Initially, data is transmitted from Caracas to Homestead to Plano Texas. In Plano EDS has 4 Information Processing Centers which would be used to analyze data for customers in Venezuela. This enables EDS to offer the full menu of EDS services without having to invest in a Venezuelan Information Processing Center.

As traffic and revenue builds, EDS will develop a Information Processing Center in Caracas and route the data directly to Plano.

CONCLUSION

This is a win-win situation that warrants top priority. EDS is able to provide customers with data processing using a fully amortized earth station. Alpha Lyracom will generate space segment revenue. This begins a relationship. EDS could become the anchor tenant for data the way CNN is for broadcast. EDS has contracts totaling hundreds of million of dollars in Latin America alone.

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CSIS

Center for Strategic & International Studies
Washington, DC

Tom W

FAX MESSAGE

FOR: Mr. Fred Landman

PanAmSat
FX: 12036229163

FROM: Ambassador Diana Lady Dougan
Senior Advisor and Chair
ICS Program, CSIS
PH: 202 775-3263
FX: 202 775-3199

DATE: 4/8/91

This fax is 1 page (including this page).

CSIS "TARGET OF OPPORTUNITY" SESSION
WITH
SOVIET DEPUTY MINISTER OF COMMUNICATIONS

As part of out International Communications Studies Program's on-going series of "target of opportunity" briefings with key international leaders in communications, I am pleased to be bring back to CSIS Soviet Deputy Minister of Communications, Kulja Kukk. In addition to his official post in the Ministry, Mr. Kukk is head of Telecom, a consortium of Soviet telecommunications manufacturers. He will be in Washington for a working session with MCI after having recently contracted a joint venture. Joining Minister Kukk will be Directors of Soviet communications research institutes, ECOS and ETALON, as well as the Director of the MCI-Moscow Global Communications Center. This small, informal gathering should provide an excellent forum for discussion and update of current Soviet priorities in telecom R&D, manufacturing, and policy.

As a special program supporter, I would like to invite you to join us for the meeting to be held Wednesday, April 10, from 3:30-5:00, in the Bi conference room, CSIS, 1800 K St., NW, Washington, D.C.. If you or a senior representative from your organization would like to be included in this session, please RSVP (name, title, company, phone#, fax#) via fax (202 775-3199) or phone (202 775-3263) to Nicholas Stevens immediately as space is very limited. Thank You.

ALPHA LYRACOM
SPACE COMMUNICATIONS

April 9, 1991

TO: Tom Whitehead, Fred Landman, Andy Rush

FROM: Doug Goldschmidt

RE: Inexpensive Communications to Pacific Rim Nations
Revision 1

I. Telecommunications and Development

Repeated studies since the mid-1970's have demonstrated that the introduction of reliable communications not only works with other ongoing activities to promote economic development, but of itself, can stimulate development. These studies have shown that communications promotes greater efficiency in agriculture by accelerating access to fertilizer and pesticides, as well as by greatly improving the timing and efficiency of transportation; in industry by improving both access to inputs as well as with access to markets and to transportation; and particularly in the services industry, by providing the types of information required to provide services, like banking, in a timely manner. The studies have demonstrated strong economic results resulting from the introduction of communications both on the micro level, in terms of the profitability and efficiency of particular firms and industries, and on the macro level, in terms of overall GNP.

While the strong ties between communications and development are now acknowledged by agencies like the World Bank, investment in the necessary communications to promote development has been impeded by the historically high cost of thin route communications. Unlike the communications systems available to major urban centers, thin route communications systems are plagued by the loss of scale economies, with resulting higher per unit costs. Until recently most technologies failed to provide the cost necessary to justify thin route investments. However, with the development of thin route satellite communications, the cost equation has swung strongly in favor of thin route investments.

II. Satellites and Thin Route Communications in the Pacific

From their earliest days, satellites have been a means of providing inexpensive communications to areas isolated from "mainstream" communications. Early experiments with NASA's ATS-6 satellite in Alaska and India, the ATS-1 and ATS-3 in the South Pacific, and the Hermes in northern Canada, among others, all confirmed that satellites could offer an inexpensive means of connecting rural or isolated areas with economic and political centers, as well as with each other.

More recently, the Indonesian satellite system, Palapa, has been pioneering the integration of remote areas. The Palapa system connects dozens of islands and remote points into an integrated communications system which encompasses telephony, data networking, and television and radio broadcasting.

In Latin America Alpha Lyracom has been working with public and private companies to extend communicatinos to rural areas. In Honduras, for example, a rural telephone system is now being installed which will link thirty rural sites into the national telephone system. The system uses a transponder on PAS-1 and relatively inexpensive 3.7m earth stations at the rural locations. In Peru PAS-1 is being used to network video programming to the most rural villages, using earth stations as small as 2.4m in diameter, costing less than $1,000 each. And, Alpha Lyracom is now introducing both VSAT (very small aperture terminal) networks for data communications, and TeSAT (telephone small aperture terminals) networks in Latin America. Both of these systems utilize very small and inexpensive earth stations to provide a range of cost effective data and voice services to widely dispersed locations. Both Palapa and Alpha Lyracom have amply demonstrated that communications satellites can be applied effectively to solve the problem of communications isolation.

Key to the effectiveness of these satellite systems has been the introduction of ground technology which efficiently makes use of the satellites' advanced capabilities. Satellite earth stations for example, used to cost in excess of $100,000 for a single voice channel. Such stations can now be delivered in small quantities at less than $45,000 per earth station in C-band, and less than $18,000 per earth station in Ku-band. These prices are diminishing as greater integration is being achieved in earth station electronics, and as greater efficiencies are introduced into the station amplifiers.

In addition, new digital technologies permit the compression of multiple voice and data channels into a small amount of space segment, greatly economizing on the cost of space segment. For example, only five years ago a voice channel required a data rate of 64 kbps. It is now possible to send voice at 8 kbps.

Also, the introduction of time division multiple access (TDMA) has permitted the development of VSAT networks which make extremely efficient use of the space segment. And, new software permits the introduction of small scale demand assigned multiple access (DAMA) networks, formerly available only in very large satellite networks, permitting the dynamic assignment of space channels. Both TDMA and DAMA greatly reduce the cost of operating a satellite network.

III. Inadequacies of Existing Pacific Satellite Systems

Unfortunately, the opportunity to expand communications in the Pacific Rim has been impeded by the lack of adequate satellite capacity. While Palapa offers reasonably good coverage of the ASEAN region, it has never been fully utilized by the ASEAN nations for economic and political reasons. Similarly, the Aussat system has only been used in a fairly limited way to promote communications development in the Oceanic Region.

The one communications satellite system which has been commonly available, Intelsat, is poorly suited for extending remote communications in a cost effective manner. The Intelsat system, which is designed primarily for international communications applications, is optimized for communications among large, gateway earth stations. The small earth stations required for rural and thin route applications are both costly to purchase and to use with the Intelsat system.

IV. Alpha Lyracom and Pacific Satellite Services

Alpha Lyracom is distinguished from the other Asian systems by its design. PAS-3 has been designed specifically to offer regional and domestic communications services similar to what is provided in the United States. This means that power is focused onto specific areas and regions, permitting the use of the smallest and least expensive earth stations available in the market. Only a specialized carrier, like Alpha Lyracom, is capable of providing such a service.

Intelsat's interests are global and, even in cases where it has attempted to meet the requirements of a regional/domestic market, as it

has in Latin America, its power levels, designed around a compromise between international and regional service, are half or worse of what Alpha Lyracom's are.

Similarly, domestic systems, such as Palapa, are designed so that services outside of the primary mission are treated as secondary in design. Outlying areas do not receive the same power levels as central areas. And, the satellite's availability is dependent on the vagaries of regional politics.

Alpha Lyracom is largely immune to regional politics, as it is an independent private entity. This neutral status has been amply demonstrated in Latin America, where Alpha Lyracom's services are widely used by countries which have historically maintained less than amicable relations. And, Alpha Lyracom's coverage throughout its Pacific coverage area will imitate the advantages of domestic satellites like Palapa, without the power limitations common to the spillover of domestic satellite systems.

V. Use of Alpha Lyracom for Thin Route Communications

Key to providing thin route communications is the availability of appropriate services. Alpha Lyracom will actively promote thin route communications through the following service offerings:

A. Spot beam transponders -- Optimal communications efficiency can only be achieved through the availability of high powered spot beam transponders. PAS-3 has been designed to provide such coverage to all of the major national groupings in the Pacific Rim.

B. Partial transponder offerings -- Many smaller users cannot afford to purchase an entire transponder. To meet these users' requirements, transponders will be offered in 9 Mhz increments, permitting growth into full transponders and providing the economic benefits arising from bulk bandwidth leases.

C. Part time offerings -- To meet the requirements for video networks, particularly for educational needs, transponders will be made available on a part time basis.

D. Resale -- All of Alpha Lyracom's services may be resold by users, permitting efficient time sharing of the space segment.

E. Customized power allocations -- Many users in thin route areas require non-standard satellite power allocations, permitting the use of transportable facilities. PAS-3 capacity can be purchased on the basis of power and bandwidth -- there are no strict tariff requirements on how service will be offered.

F. Shared hub DAMA and TDMA -- Achieving the economies arising from DAMA and TDMA systems requires investment in relatively costly hub stations. To meet the needs of smaller users, Alpha Lyracom will provide shared hub services for DAMA and TDMA, permitting smaller users to take advantage of the major economies of these technologies without having to undertake investments would cannot be cost justified due to the small size of individual markets.

G. Turn key services -- Offering the space segment does not necessarily help if small users lack the ability to access the space segment. Hence, Alpha Lyracom offers full turn key services, assuring that all users will be able to acquire the equipment necessary to efficiently utilize the service.

Mike
Names for Janice
Tom

Ken Leeson
IBM Corporation
2000 Purchase Street
Purchase, New York 10577-2597
(914) 697-7202
FAX: (914) 697-7408

John Lynn
EDS
1331 Pennsylvania Ave., N.W., Suite 1300
Washington, D.C. 20004
(202) 637-6706
FAX: 202-637-6759

P. Michael Nugent, Esq.
Assoc. Gen. Counsel-Vice Pres.
Citicorp - Citibank
425 Park Avenue, 3rd Floor
New York, NY 10043
(212) 559-0142
FAX: 212-793-4405

Ed Regan, Vice President
Manufacturers Hanover
55 Water Street, 39th Floor
New York, NY 10015
(212) 623-9755
FAX: 212-422-1142

Plus Ken Lindhorst at ATT

1-908-221-4179

Mike
Names for Janice
Tom

Ken Leeson
IBM Corporation
2000 Purchase Street
Purchase, New York 10577-2597
(914) 697-7202
FAX: (914) 697-7408

John Lynn
EDS
1331 Pennsylvania Ave., N.W., Suite 1300
Washington, D.C. 20004
(202) 637-6706
FAX: 202-637-6759

P. Michael Nugent, Esq.
Assoc. Gen. Counsel-Vice Pres.
Citicorp - Citibank
425 Park Avenue, 3rd Floor
New York, NY 10043
(212) 559-0142
FAX: 212-793-4405

Ed Regan, Vice President
Manufacturers Hanover
55 Water Street, 39th Floor
New York, NY 10015
(212) 623-9755
FAX: 212-422-1142

Plus Ken Lindhorst at ATT

1-908-221-4179

TO: Phil Rubin
Tom Whitehead
Alden Richards

FR: Fred Landman

RE: MEETING - CHINA GREAT WALL INDUSTRY CORP.

DT: February 20, 1991

This is to advise you that the meeting with the CGWID has been scheduled for the morning of February 26th at the Greenwich office.

DOCUMENTS WITHHELD FROM PRODUCTION
ATTORNEY CLIENT PRIVILEGE

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ALPHA LYRACOM
SPACE COMMUNICATIONS

FACSIMILE MESSAGE SHEET

Fax: 203/622-9163

TO: Phil Rubin - Alden Richards
Tom Whitehead

Date: 2/19 No. of Pages 3

FROM: FRED LANDMAN

IF TRANSMISSION IS INCOMPLETE, PLEASE CALL 203/622-6664.

Message: FYI

Will advise final date and time.

CHINA GREAT WALL INDUSTRY CORPORATION

REPRESENTATIVES
21515 HAWTHORNE BLVD. #1065, TORRANCE, CA 90503, USA.
TEL: (213) 540-7706, FAX: (213) 540-3475.

FEB. 16, 1991

Mr. Fred. Landman
President
ALSC
One Pickwick Plaza
Greenwich, CT06830

Dear Mr. Landman:

I will bring the following people of CGWIC and PICC to Greenwich. We prefer to have the meeting with you on the morning of Feb. 26, 1991, if it is convenient to you. We would like to have your comments by fax.

CHINA GREAT WALL INDUSTRY CORPORATION
* Mr. Yue Zhuzhen, Deputy General Manager, Space Division
* Mr. Gao Ruofe, Project Manager, Space Division

THE PEOPLE'S INSURANCE OF COMPANY OF CHINA (PICC)
* Mr. Ding Yunzhou, Deputy General Manager, International Insurance Dept.
* Mr. Zheng Hai, International Insurance Dept.

CHINA SATELLITE LAUNCH TRACKING & CONTROL GENERAL
* Mr. Qin Shen, Senior Engineer, Development Dept.

Looking forward to the pleasure of seeing you again in Greenwich.

Sincerely yours,

Guodong Tian
Representative of CGWIC

ALPHA LYRACOM
SPACE COMMUNICATIONS

VIA FACSIMILE 213/540-3475

February 19, 1991

Mr. Guodong Tian
Representative of CGWIC
21515 Hawthorne Blvd. #1065
Torrance, CA 90503

Dear Mr. Tian:

We are in receipt of your letter dated February 16th regarding meeting for February 26th. We would prefer to schedule this meeting for the morning of February 25th? Please advise.

Sincerely,

Frederick A. Landman
President

FAL:mf

MEMORANDUM

January 16, 1990

TO: Fred Landman
Tom Whitehead
Gerry Gorman
Andy Rush
[011-813-~~9753~~-1110]
3535

FROM: Ammar Hanafi

SUBJECT: Singapore Meetings

Two companies in Singapore, Singapore Telecom and Singapore Press Holdings, have indicated that they would like to meet with Alpha Lyracom management at the end of this month. Please confer among yourselves as to the best date for these meetings so I can coordinate with the companies.

I have spoken with Dr. Chia Choon Wei at Singapore Telecom (65-730-2340) who is in charge of ventures/investments. Singapore Telecom would like to meet with ALSC with people from the investment side, Singapore Telecom's satellite group (earth station operations) and Singapore Telecom International.

Singapore Press Holdings is the Singapore newspaper monopoly and is the second largest industrial concern in Singapore. I have spoken with Mr. Tan Teck Huat in Corporate Planning (65-740-1872) who has indicated that SPH would like to meet with you in Singapore. The company has a large amount of cash on its balance sheet and is interested in diversifying into electronic media such as satellite TV and electronic data distribution (SPH has a joint venture with Singapore Telecom in "videotext" services).

Senior Executives: G J Tan (General Manager, Distribution), Martin Lek (General Manager, Marketing), Jeff Oliveiro (Bulk Gas Sales Manager), C W Lee (Equipment Sales & Export Manager), Arthur Wee (Special Gases Manager)

PRINCIPAL ACTIVITIES: Manufacturer of industrial, special and medical gases; supplier of associated equipment and pipeline installation

Principal Agencies: BOC; L'Air Liquide; CIG; SAF; Miller; Hancock; Thermal Dynamics (Gas applications and welding); Ohmeda; Airshield (medical); US Divers, Spirotechnique; Technisub (diving); CIG, Fenzy, Neotronics, MDA (Safety)

Parent Company: The BOC Group, UK; L'Air Liquide, France

Subsidiary Companies: Singapore Carbon Dioxide Co Pte Ltd

Principal Bankers: Banque Indosuez; Banque Nationale de Paris; Standard Chartered Bank; Chung Khiaw Bank; Citibank N A; Hongkong & Shanghai Banking Corporation

Financial Information:

	1988	1989
	S$'000	S$'000
Sales turnover	64,434	81,207
Profits	11,940	19,600
Authorised capital	50,000	50,000
Paid-up capital	42,000	42,000
Total assets	133,410	147,202

Principal Shareholders: The BOC Group, UK (50%); L'Air Liquide, France (50%)

Date of Establishment: 1916

No of Employees: Approx 280

SINGAPORE PETROLEUM CO PTE LTD

6 Shenton Way, #42-01, DBS Building, Singapore 0106

Tel: 2213166

Cable: SINGAPETRO SINGAPORE

Telex: 21430 SPC RS

Telefax: 221-3691

Chairman: Tan Boon Teik; President: Cheng Hong Kok (also Chief Executive)

Senior Executives: Ng Cheng Cheong (Vice-President, Supply & Transportation), Roy C H Tsou (Vice-President, Marketing), Lee Chiang Huat (Vice President, Finance & Accounting), A E Orr (Head of Manufacturing)

PRINCIPAL ACTIVITIES: Refining, marketing, distribution and trading of crude and petroleum products

Branch Offices: Overseas Representation: Einar Dohlen, Singapore Petroleum Co Pte Ltd, Kr Augusts Gate 13, 0164 Oslo 1, Norway; C C Chang, Singapore Petroleum Co (Japan) Ltd; Singapore Petoleum Co (Japan) Ltd, Room 308, Zenkoku Nenryo Bldg, 8-12-15 Ginza, Chuo-ku, Tokyo 104, Japan; Willy Lee, Singapore Petroleum Co (HK) Ltd, Room 1807 Wing On House, 71 Des Voeux Road Central, Hong Kong

Subsidiary/Associated Companies: Singapore Petroleum Co (HK) Ltd; Singapore Carbon Dioxide Co Pte Ltd; Singapore Refining Co Pte Ltd; Tanker Mooring Services Co Pte Ltd; Changi Airport Fuel Hydrant Installation Pte Ltd; Singapore Petroleum Co (Japan) Ltd; Singapore Petroleum Trading Co Ltd

Principal Bankers: Development Bank of Singapore Ltd

Principal Shareholders: The Development Bank of Singapore Ltd; Amoco International Limited; Oceanic Petroleum Corporation; C Itoh International Petroleum Co Ltd

Date of Establishment: May 19th, 1969

No of Employees: 100

SINGAPORE PRESS HOLDINGS LTD

News Centre, 82 Genting Lane, Singapore 1334

Tel: 743-8800

Telex: 55148 SPHNC RS

Telefax: 744-9949

Chairman: Lim Kim San

Directors: Lim Kim San (Executive Chairman), Michael Y O Fam, Lee Hee Seng, Wee Cho Yaw, Tang I-Fang, Chua Kim Yeow, Wong Hung Khim

Senior Executives: William Chee Fook Onn (Group General Manager, Personnel), Lim Ngak (Divisional General Manager, Finance), N K Hazra (Divisional General Manager, Corporate Relations), Foo Joon Kim (Group Company Secretary)

PRINCIPAL ACTIVITIES: Holding company with subsidiaries involved in newspaper publishing, printing and distribution

Subsidiary Companies: The Straits Times Press (1975) Ltd (STP); Singapore News & Publications Ltd (SNPL); Singapore Newspaper Services Pte Ltd (SNS)

Financial Information: 1989 figures after demerger of Times Publishing Bhd

	31.08.88	31.08.89
	S$'000	S$'000
Turnover	916,875	458,687
Profits before tax	138,975	135,420
Authorised capital	500,000	505,000
Paid-up capital	243,254	245,712
Net current assets	399,712	205,286

Principal Shareholders: Great Eastern Life Assurance Co Ltd; DBS Nominees (Pte) Ltd; Hongkong & Shanghai Bank Nominees (Pte) Ltd; Oversea-Chinese Bank Nominees (Pte) Ltd

Date of Establishment: 1984 (merger of STP, TPB, and SNPL)

No of Employees: Approx 3,500

SINGAPORE TELECOM

Comcentre, 31 Exeter Road, Singapore 0923

Tel: 734-3344

Cable: Telecoms Singapore

Telex: 33311 RS

Telefax: 732-8428

Chairman: Koh Boon Hwee

Directors: Wong Hung Khim (President & Chief Executive Officer), Dr Hong Hai, Lew Syn Pau, Lim Ho Kee, Tan Chin Nam, Keith AK Tay, Ong Kok Min, Lt Tan Kim Siew

Senior Executives: Sim Cher Khee (Chief Internal Auditor), Sung Sio Ma (Executive Vice President, Customer Services), Lim Toon (Executive Vice President, Network Services), Lim Shyong (Division Manager, International Marketing), Lian Bee Leng (Division Manager, Network Master Planning), Sin Hang Boon (Vice President, Business Communications), Khoo Chek Ngee (Vice President, Residential Communications), Richard Fong (Vice President, Mobile Communications), Dr Chia Choon Wei (Vice President, Ventures), Moh Hak Serh (Vice President, National Network), Ng Seng Sum (Vice President, International Network), Ho Fah Siong (Assistant Vice President, Information Systems), Lung Chien Ping (Vice President, Logistics & Properties), Lee Shin Koi (Director, Postal Services), William Tan Soo Hock (Vice President, Corporate Finance), Ng Hong Yew (Vice President, Human Resources), Ng Chee Meng (Division Manager, Corporate Affairs)

PRINCIPAL ACTIVITIES: Responsible for all operations of telecommunications and postal services in Singapore

Parent Company: Telecommunication Authority of Singapore

Subsidiary Companies: Integrated Information Pte Ltd; Singapore Telecom International Pte Ltd; i-Com Equipment Pte Ltd

Principal Bankers: Development Bank of Singapore Ltd; United Overseas Bank Ltd; Four Seas Communications Bank Ltd; Oversea-Chinese Banking Corporation Ltd

Financial Information:

	1988	1989
	S$'000	S$'000
Total Operating Revenue	1,508,739	1,746,005
Net Revenue	446,135	620,235
Total assets	3,753,629	4,259,551

27,814,231 shs., representing 25.46% and 22.34% of outstanding shares respectively.

Dividends Paide (fiscal year since 1985, in cents):
1985.....8.95 1986-87.....7.50 1988.....7.39
1989.....15.00

Registrars: Barbinder & Co. Pte., Singapore.

Loan Stock Redeemed: The 6% Convertible Unsecured Loan Stock 1987/99 was constitued under a Trust Deed dated Mar. 7 1987. The outstanding CULS totalling S$776,000 were redeemed at 102% on May 31, 1989.

Warrants: Outstanding Aug. 31, 1988 warrants to purchase 47,842,566 shs. at S$7.46 per share expiring Jan. 17, 1994.

SINGAPORE PRESS HOLDINGS LTD.

History: Incorporated in Singapore, on Aug. 4, 1984.

On Nov. 30, 1984, Co. acquired Times Publishing Bhd., The Straits Times Press (1975) Ltd. and Singapore News and Publications Ltd.

In Sept. 1986, Co. acquired Koon Wah Printing Pte. Ltd.

During fiscal 1988, Co. acquired 3 management shares and 399,997 ord. shs. of Focus Publishing Ltd., being 50% of the issued capital, for a cash consideration of S$200,000. The acquisition of these shs. brought the Group's holding to 99.95% of the management shs. and 100% of the ord. shs. The Group's share of the net tangible liabilities at acquisition was S$64,062. Also, Co. acquired 1,603,801 ord. shs. of Scantrans Private Ltd., being 59.4% of the issued capital, for a cash consideration of S$1,240,946. The Group's share of the net tangible assets at acquisition was S$1,480,249.

During fiscal 1989, Co. demerged Times Publishing Ltd. (formerly known as Times Publishing Berhad).

In July 1989, Co. was converted to a newspaper company as defined in the Newspaper and Printing Presses Act, Cap. 206. This entailed the issuance of 2,457,116 management shares of $1.00 each in the capital of Co.

Business: The principal activity of Co. is the holding of shares in subsidiary corporations, the holding of investments through fund managers and the provision of management services to subsidiaries.

The principal activities of the Group consist of the publishing, printing and distribution of newspapers, the publishing and distribution of magazines, the holding of investments through fund managers, the operation of a travel agency and the holding of shares in other corporations.

Property: Major properties are located in Singapore, Malaysia, U.K., U.S., Thailand, Hong Kong and Australia.

Principal Wholly Owned Subsidiaries

Singapore News & Publications Ltd.
Singapore Newspaper Services Pte. Ltd.
The Straits Times Press (1975) Ltd.
Times Properties Pte. Ltd.

Associated Company: The Straits Times Press (London) Ltd. (50%)

Management

L.K. San, Exec. Chmn.
W.C.F. Onn, Gen. Manager
F.J. Kim, Sec.
Lim Ngak, Div. Gen. Manager
N.K. Hazra, Div. Gen. Manager

Directors

K.S. Lim, Chmn.
P.H. Yong, Dep. Chmn.
M.Y.O. Fam — Tang I-Fang
F.Y.C. Yung — K.Y. Chua
H.S. Lee — C.Y. Wee
H.K. Wong — T. Lim

Promo. costs def.	.....	.....
Oth. debtors & prepay.	4,801	34,026
Loans to dir. of rel. cos.	46	126
Inc. tax. recov.	.....	887
Funds under mgmt.	107,124	197,424
Marketable sec.	3,579	5,344
Total current	340,142	712,110
Intangible assets	.....	324
Int. in assoc. cos.	11,260	17,297
Investments	4,164	14,255
Def. debtors	3,913	6,273
Total fixed assets	334,828	472,213
Less: Accum. deprec.	101,722	137,395
Net fixed assets	233,056	334,818
Total	592,535	1,085,077
Liabilities:		
Trade cred. & bills pay.	25,137	99,914
Oth. cred. & accr.	46,971	67,556
Bank overdraft	13	2,086
Bank loans	.....	73,428
Curr. taxation	34,331	40,893
Dividend	28,404	24,447
Total current	134,856	308,324
Staff retire. ben.	.....	2,036
Hire purch. leases	.....	242
Loans	.....	1,257
Deferred tax	36,590	42,981
Minority interest	776	5,162
Fgn. curr. adj.	4	7,382
Mgmt. stock (S$1)	2,458	.....
Ord. stock (S$1)	243,254	243,254
Share premium	19,043	315,685
Capital res.	2,027	10,107
Retained profits	153,527	148,647
Shareholders' equity	420,313	725,075
Total	592,535	1,085,077
Net current assets	205,286	403,786

Note: Certain comparative figures have been reclassified to conform with the current year's presentation.

Capital Stock: 1. Singapore Press Holdings Ltd. management shs.; par S$1:

Auth., 5,050,000 shs.; issued and fully paid, Aug. 31, 1989, 2,458,000 shs.; par S$1.

As of Dec. 29, 1989, The Great Eastern Life Assurance Co. Ltd. held 852,619 shs. representing 34.80% of outstanding management shares.

Voting Rights: Entitled to one vote per share, except that on any resolution relating to the appointment or dismissal of a director or any member of the staff of Co. the holders of Management shs. shall be entitled to two hundred votes for each Management shs. held.

Issued: (2,457.116 shs.) at average price of $8.75 per share in July 1989.

2. Singapore Press Holdings Ltd. ordinary; par S$1:

Auth., 499,950,000 shs.; issued and fully paid, Aug. 31, 1989, 243,254,000 shs.; par S$1.

Voting Rights: Entitled to one vote per share.

Dividends Paid (Fiscal years since 1984, in cents):
1985.....25 1986.....23 1987-89.....25

Share Registration Office: Barbinder & Co. Pte.
Listed: On Singapore Stock Exchange.

SINGAPURA BUILDING SOCIETY LTD.

History: Incorporated in the Republic of Singapore as successor of Malaya Borneo Building Society, established in 1950.

Business: The main business of the Company is to make loans and advances upon the security of freehold or leasehold property by way of mortgage. In addition, and besides the carrying on of other activities relating to those of a finance company, the Co. has two wholly-owned subsidiaries, SBS Realty Services (Private) Ltd., which provides estate agency and management services, and SBS

SINGAPORE (REPUBLIC OF)

Taxation	9,976	12,131
Bank overdrafts	3,119	1
Prop. final dividend	12,667	4,927
Total current	90,005	74,335
Minority interests	*cr*9,502	*dr*69,322
Conv. unsecur. loan stock	.....	68,914
Deferred liab.	712,690	566,706
Ord. shs. (S$1)	124,184	98,051
Reserves	1,580,412	696,044
Total	2,516,793	1,434,728
Net current liabilities	27,725	17,023

Long-Term Debt: Outstanding, Aug. 31, 1989, S$60,392,000 2% unsecured loan stock 1989/94 with detachable warrants on the basis on one warrant for every S$2.00 nominal amount of Loan Stock.

The redemption of the unsecured loan stock will be made in the following manner:

(a) The Co. may purchase the Loan Stock at any price in the open market for cancellation.

(b) The holders of Warrants may tender Loan Stock for redemption at par when exercising their subscription rights for ordinary shares in the Company.

(c) Unless previously surrendered, or purchased and cancelled, the Loan Stock will be redeemed by the Company at par on Jan. 17 1994.

Capital Stock: Singapore Land Limited ordinary shares; par S$1:

Auth., 250,000,000 shs.; outstg. Aug. 31, 1989, 124,184,000 shs.; reserved for warrants, 47,842,566 shs.; par S$1.

As of Oct. 16 1989, Overseas-Chinese Bank Nominee (Pte) Ltd. held 31,693,849 shs. and Hong Kong & Shaghai Bank (S) Nominees Pte Ltd. held 27,814,251 shs., representing 25.46% and 22.34% of outstanding shares respectively.

Dividends Paide (fiscal year since 1985, in cents):
1985.....8.95 1986-87.....7.50 1988.....7.39
1989.....15.00

Registrars: Barbinder & Co. Pte., Singapore.

Loan Stock Redeemed: The 6% Convertible Unsecured Loan Stock 1987/99 was constitued under a Trust Deed dated Mar. 7 1987. The outstanding CULS totalling S$776,000 were redeemed at 102% on May 31, 1989.

Warrants: Outstanding Aug. 31, 1988 warrants to purchase 47,842,566 shs. at S$7.46 per share expiring Jan. 17, 1994.

SINGAPORE PRESS HOLDINGS LTD.

History: Incorporated in Singapore, on Aug. 4, 1984.

On Nov. 30, 1984, Co. acquired Times Publishing Bhd., The Straits Times Press (1975) Ltd. and Singapore News and Publications Ltd.

In Sept. 1986, Co. acquired Koon Wah Printing Pte. Ltd.

During fiscal 1988, Co. acquired 3 management shares and 399,997 ord. shs. of Focus Publishing Ltd., being 50% of the issued capital, for a cash consideration of S$200,000. The acquisition of these shs. brought the Group's holding to 99.95% of the management shs. and 100% of the ord. shs. The Group's share of the net tangible liabilities at acquisition was S$64,062. Also, Co. acquired 1,603,801 ord. shs. of Scantrans Private Ltd., being 59.4% of the issued capital, for a cash consideration of S$1,240,946. The Group's share of the net tangible assets at acquisition was S$1,480,249.

During fiscal 1989, Co. demerged Times Publishing Ltd. (formerly known as Times Publishing Berhad).

In July 1989, Co. was converted to a newspaper

Auditors: Coopers & Lybrand.

Annual Meeting: In Feb.

No. of Shareholders: Dec. 26, 1989, 5,868 (Ord.).

Registered Office: News Centre, 82 Genting Lane, Singapore 1334. **Tel.:** 743-8800.

Consolidated Profit & Loss Account, as of Aug. 31 (in thousands of Singapore $):

	1989	1988
Turnover	458,687	916,875
Trading profit	121,581	128,591
Equity earns.	*dr*38	1,191
Invest. income	13,877	9,193
Profit bef. taxation	135,420	138,975
Taxation	39,906	48,397
Minority interests	232	1,645
Extraord. charges	1,052	1,340
Net profit	94,230	87,593
Prev. retain. profit	148,647	100,952
Amount from demerger of sub.	*dr*47,713	.....
Exch. diff.	.....	*cr*852
Tfr. to capital res.	.....	5
Dividends	41,637	40,745
Retained profit	153,527	148,647
[1]Earn., ord. share	S$0.391	S$0.366

[1]Before extraord. charges.

Consolidated Balance Sheet, as of Aug. 31 (in thousands of Singapore $):

Assets	1989	1988
Cash & bank bal.	148,539	159,799
Inventories	24,827	129,871
Trade debtors, net	51,266	156,481
Promo. costs def.	.....	28,256
Oth. debtors & prepay.	4,801	34,026
Loans to dir. of rel. cos.	46	126
Inc. tax. recov.	.....	887
Funds under mgmt.	107,124	197,424
Marketable sec.	3,579	5,344
Total current	340,142	712,110
Intangible assets	.....	324
Int. in assoc. cos.	11,260	17,297
Investments	4,164	14,255
Def. debtors	3,913	6,273
Total fixed assets	334,828	472,213
Less: Accum. deprec.	101,722	137,395
Net fixed assets	233,056	334,818
Total	592,535	1,085,077
Liabilities:		
Trade cred. & bills pay.	25,137	99,914
Oth. cred. & accr.	46,971	67,556
Bank overdraft	13	2,086
Bank loans	.....	73,428
Curr. taxation	34,331	40,893
Dividend	28,404	24,447
Total current	134,856	308,324
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Loans	.....	1,257
Deferred tax	36,590	42,981
Minority interest	776	5,162
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Share premium	19,043	315,685
Capital res.	2,027	10,107
Retained profits	153,527	148,647
Shareholders' equity	420,313	725,075
Total	592,535	1,085,077
Net current assets	205,286	403,786

Note: Certain comparative figures have been

SPH posts record $194m group pre-tax profit

Reasons: Higher ad revenue, prudent cost control, cheaper newsprint

By Doreen Siow

BUOYED by a surge in advertising revenue, newspaper group Singapore Press Holdings Ltd has posted sparkling results that far exceeded market expectations.

Group pre-tax profit for the year ended Aug 31 reached a record high of $194.08 million, a jump of 43.3 per cent over last year's $135.42 million.

To reward shareholders, the company has declared a final dividend of 22 cents. This includes a special dividend of 5 cents in commemoration of Singapore's 25th anniversary.

At a press conference yesterday, Executive Chairman Lim Kim San said the strong performance was due to higher advertising spending by companies celebrating Singapore's 25th anniversary.

In line with favourable economic conditions, group turnover increased 15.9 per cent to $531.61 million while trading profit rose a hefty 50.1 per cent to $182.44 million.

The trading profit would have been even higher if not for increased depreciation charges of $32.32 million compared with the previous year's $19.98 million.

The depreciation charges have gone up following the adoption of shorter depreciation periods for computers from seven years to three.

On prospects for the current year, Mr Lim said SPH is expected to maintain its operating profit, barring unforeseen circumstances such as a war in the Middle East.

Factors in SPH's favour include strong advertising demand and higher advertising rates which will be introduced in January next year.

The 9-per cent rise in advertising rates for the major newspapers will be the first for SPH in two years. The move is to cover higher circulation and newsprint costs.

Mr Lim said all the group's newspapers have done well; The New Paper is now viable and the revamped Business Times is also doing well.

The only quarter that did not do as well as before was Times Periodicals, which publishes magazines such as Her World and Co.

Noting that competition has increased with the advent of desktop publishing, Mr Lim said there will be a revamp soon at Times Periodicals to meet the changes.

For the year just ended, Mr Lim said profitability was boosted by prudent cost controls and lower newsprint costs compared with the previous year.

He said newsprint accounted for 28 per cent of costs while staff costs — excluding that of vendors to distribute the newspapers — amounted to 37 per cent.

Investment income rose 40.9 per cent to $20.24 million. But due to the stock market slump resulting from the Gulf crisis, a $4.54-million provision has been made.

SPH also made a $12.8-million provision under extraordinary items. This is for the diminution of value in its 5-per cent stake in the Hongkong-based South China Morning Post, which SPH acquired in June.

Group after-tax profit was up 39.8 per cent to $133.54 million, while bottom-line profit was $120.6 million, up 28 per cent from the previous year.

Net earnings per share rose 15.15 cents to 54.28 cents while net tangible assets rose 28 cents to $1.99 per share.

After-tax profit as a percentage of turnover was 25.12 per cent, against 20.82 per cent previously.

The only dark spot in SPH's glowing report card was a loss of $4.06 million incurred by one of its associated companies — a Vancouver paper mill project.

Singapore Press Holdings
Financial Snapshot

Group Basis for year ended Aug 31	1990	1989	% Change
Turnover ($mil)	$531.61	458.68	+ 15.9
Pre-tax profit ($mil)	$194.08	135.42	+ 43.3
Net after-tax profit ($mil)	$133.97	95.28	+ 40.0
Net EPS (cents)	54.28	39.13	+ 38.7
NTA per share ($)	1.99	1.71	+ 16.3
Final Dividend (cents)	22	17	+ 29.4
Total Dividend (cents)	30	25	+ 20.0

SINGAPORE PRESS HOLDINGS LIMITED

(Incorporated in Singapore)

ANNOUNCEMENT

RESULTS FOR THE YEAR ENDED 31ST AUGUST 1990

The Directors have pleasure in announcing the audited results of the Group for the year ended 31st August 1990.

	GROUP		% Change	COMPANY	
	1990 S$'000	1989 S$'000	+ % -	1990 S$'000	1989 S$'000
Turnover	531,509	458,667	+15.8	110,891	87,119
Trading profit	182,440	121,581	+50.1	1,437	401
Share of losses of associated corporations	(4,054)	(33)	*	—	—
	178,386	121,548	+46.8	1,437	401
Dividends from unquoted subsidiaries	—	—		71,928	87,243
Investment income	20,294	14,440	+40.8	17,222	9,830
Provision for diminution in value of investments	(4,836)	(433)	*	(3,210)	(236)
Profit before taxation	194,088	135,430	+43.3	87,069	77,277
Taxation	(60,548)	(39,906)	+51.7	(27,254)	(24,461)
Profit after taxation	133,530	95,614	+39.6	59,815	52,816
Minority interests	(156)	(232)	-32.8	—	—
Profit before extraordinary items	133,374	95,382	+39.8	59,815	52,816
Extraordinary items	(12,772)	(1,052)		(12,804)	(1,052)
Profit attributable to shareholders	120,602	94,330	+28.0	47,011	51,764

* Infinitely large.

The turnover of the Group improved in line with favourable economic conditions. Growth in advertising was particularly buoyant. This together with prudent cost controls and lower newsprint cost, compared with the previous year, helped achieve a higher rate of profitability. However, newsprint prices have been increasing in the second half of the year.

Investment income was higher. However, due to the fall in market value arising from the Middle East situation, an appropriate provision has been made for diminution in value.

The taxation charge does not include any significant adjustment in respect of prior years.

Since the end of this financial year, the printing and distribution of newspapers, the advertisement marketing and other support service functions have been transferred from certain subsidiaries to the parent company to improve operational efficiency.

Other than this, in the opinion of Directors, no event of a material and unusual nature which would affect substantially the results of the operations of the Company or the Group has occurred between the end of the financial year and the date on which this report is issued.

	GROUP		COMPANY	
	1990 S$'000	1989 S$'000	1990 S$'000	1989 S$'000
2. The trading profit is arrived at after charging:				
Depreciation of fixed assets	32,317	18,878	685	254

The depreciation charge has been increased due to the adoption of higher depreciation rates, particularly for computers and related equipment.

3. Extraordinary items comprised:

	GROUP		COMPANY	
	1990 S$'000	1989 S$'000	1990 S$'000	1989 S$'000
Provision for diminution in value of long-term investment	(12,804)	—	(12,804)	—
Surplus on liquidation of associated corporation	18	—	—	—
Profit on sale of long-term investment	16	—	—	—
Deficit on liquidation of long-term investment	(2)	—	—	—
Demerger expenses	—	(694)	—	(694)
Residual expenses on liquidation of subsidiary	—	(358)	—	(358)
	(12,772)	(1,052)	(12,804)	(1,052)

	GROUP		COMPANY	
	1990	1989	1990	1989
4. Profit after taxation as percentage of				
(a) turnover	25.12	20.82		
(b) issued capital and reserves	27.27	22.72		
5. Earnings in cents per share				
(a) pre-tax	78.99	56.81		
(b) post-tax and minority interests	54.28	39.13		
6. Net tangible asset backing per share	$1.80	$1.71		
7. Profit after minority interests	S$'000	S$'000	S$'000	S$'000
First six months	57,162	44,370	4,838	2,751
Second six months	76,212	50,912	54,977	50,065
	133,374	95,382	59,815	52,816

8. Current Year Prospect
Although economic growth is expected to slow down in the coming year, advertisement demand has so far continued to be strong. The increases in circulation and higher newsprint costs have made it necessary to raise the advertisement rates for the major newspapers in January 1991. International political situations will continue to impact the performance of the Group's investments. Barring unforeseen circumstances, it is anticipated that the operating results for the current year would match those for the previous year.

9. Annual General Meeting & Dividend
NOTICE IS HEREBY GIVEN that the Sixth Annual General Meeting of the Company will be held at News Centre, 82 Genting Lane, Singapore 1334 on the 8th day of February, 1991 and that the Directors will recommend the payment of a final dividend of 22 cents (1989: 17 cents) per $1 management/ordinary share less 31% income tax (1989: 32%) in respect of the year ended 31st August, 1990.

The proposed final dividend includes a Special Dividend of 5 cents (1989: nil) in commemoration of Singapore 25th Anniversary.

The final dividend, if sanctioned, will be paid on 18th February, 1991 to shareholders who are on the Register of Members as at 9th February, 1991. The proposed final dividend together with the interim dividend of 8 cents will give a total of 30 cents (1989: 25 cents) for the year.

10. Transfer Register
NOTICE IS HEREBY GIVEN that the Transfer Register of the Company will be closed from 2nd February, 1991 to 9th February, 1991 (both days inclusive) for the preparation of dividend warrants.

Registrable transfers received by our Share Transfer Office, Barbinder & Co Pte, up to 5 p.m. on 1st February 1991, will be registered before entitlements to the dividend are determined.

BY ORDER OF THE BOARD
Foo Joon Kim
Secretary

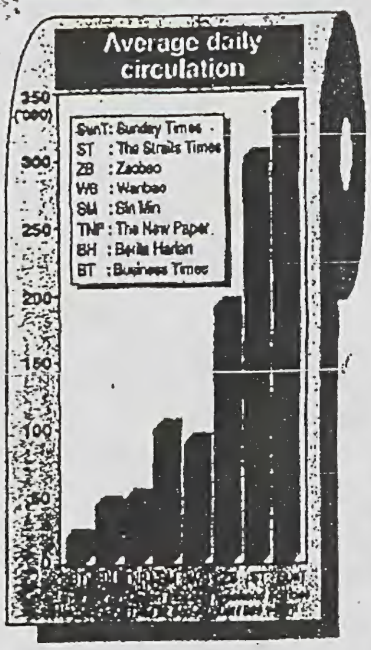
Singapore,
8th November, 1990

01-15-91 11:46 T- SPH SIN 7449949 #492 -04

SINGAPORE PRESS HOLDINGS

AN INTERVIEW WITH *SPH* CHAIRMAN LIM KIM SAN

TOWARDS A 'THROBBING, THRIVING ENTERPRISE'



The merger of Singapore's two main newspaper groups five years ago was supposed to eliminate wasteful duplication and improve economies of scale. But progress was slow until recently. Singapore Press Holdings has been likened to a chariot with a team of horses pulling in different directions. Executive chairman Lim Kim San is determined to whip the team into shape and turn SPH into the "throbbing, thriving enterprise it should be". In an interview with Business Times, he spoke of his plans to MANO SABNANI, MARGARET THOMAS and AMY BALAN.

Singapore Press Holdings, created nearly five years ago by the merger of three companies, is finally about to live up to its position as Singapore's second largest publicly-listed industrial concern.

Until recently, the company's image outside —and even within — was poor: a loosely run monopoly that had grown fat and lazy, a sycophantic press. But that image and the company are now being changed. And in a mighty hurry. The man behind that change is former cabinet minister Lim Kim San.

Analysts had predicted a shake-up of some sort when the 73-year-old Mr Lim was brought on board as executive chairman in September 1988. After all he had long served as the government's trouble-shooter. Yet until the resignation of Frank Yung as chief executive officer in June 1989, outsiders had only an inkling of the massive reorganisation that was in the works.

"It's not like me to let things drift," Mr Lim explained during a recent interview at News Centre in Genting Lane. "It's a habit formed in the early days when working with the pioneering political leaders. My upbringing is such that I must do something if I feel the situation is not right."

One of the first things he did was to throw out the 1989 budget that suggested that the group was going to make less profit than the previous year. Then, he went through the books, put all property development plans on hold, froze recruitment and insisted that cost-saving measures be instituted. More changes are on the way. The biggest exercise will be a company-wide reorganisation that will rationalise the group's disparate operations.

The merger of The Straits Times Press (1975) Ltd, Times Publishing Bhd and Singapore News and Publications Ltd (SNPL) in November 1984 created a formidable giant. The newly created SPH had total assets of $628 million and a market capitalisation of $1.35 billion. Today, SPH has a market capitalisation of $2.24 billion ranking it as the largest industrial company after Singapore Airlines and the fifth largest publicly-listed company. SNPL itself was the result of a 1982 merger of two Chinese newspapers, Nanyang Siang Pau and

Lim Kim San (far left) and one of his corporate planners, Tan Teck Huat (centre) ponder future of SPH with BT's Amy Balan, Margaret Thomas and Mano Sabnani (left to right): "I get ideas when I am discussing and interacting."

the Sin Chew Jit Poh.

For a long while, the creation of SPH was viewed as a merger only on paper. "SPH was a conglomerate that had come together but was not working together," said Mr Lim. The different subsidiaries had different outlooks, cultures and work systems — like "a chariot with a team of horses pulling in different directions."

Early this year, Times Publishing was split from the group (a move announced before Mr Lim's appointment) to give it a separate identity and greater flexibility to pursue business opportunities and expand internationally.

Mr Lim sees his task as reining in the company's disparate divisions and their managements, getting them to set their sights on common goals and giving them a new team spirit. It is a daunting task, one he admits, that he would rather not have to do himself. But until he can find the right chief executive officer, he will play the role of chariot master, depending on a group of three young men — all ex-government scholars — to deal with the nitty-gritty.

In the first steps towards streamlining the company, the personnel and administrative (P & A) functions of SPH's main subsidiaries — STP, SNPL, and Singapore Newspaper Services (SNS) — are being centralised. Previously, each unit had its own P & A department.

Mr Lim, who says he knew nothing about the newspaper business when he joined the group, is now trying out his most radical idea so far — merging all the group's advertising activities. Instead of eight, single-product salesmen from eight newspapers — each fighting the others over a client's advertising budget, Mr Lim asked, why not have one specialist sit down with an advertiser to decide which of the eight papers would best suit the client's needs? Better still, he reasoned, why not cover the advertisers through their advertising agencies since the latter increasingly influence the selection of the advertising medium? Agencies account for 95 per cent of the dollar value of advertisements placed; only 5 per cent are placed directly by the advertisers.

This approach has already been adopted by the advertising team at Times Periodicals, the group's magazine publishing arm. The account executives meet with agency contacts to sell space in each of the group's magazines — Singapore Business, Her World, Go, Home and Decor, and Young Parents. The feedback from the agencies has been positive. They prefer spending "quality time" with a specialist salesperson who can discuss the placement needs of an agency's various clients to entertaining a string of account executives from the same group. The advertisement departments of the newspapers are beginning to move towards this system. But, first, the company must develop a core of super salespersons who are knowledgeable about each of the group's newspapers and who can handle a broad cross-section of products.

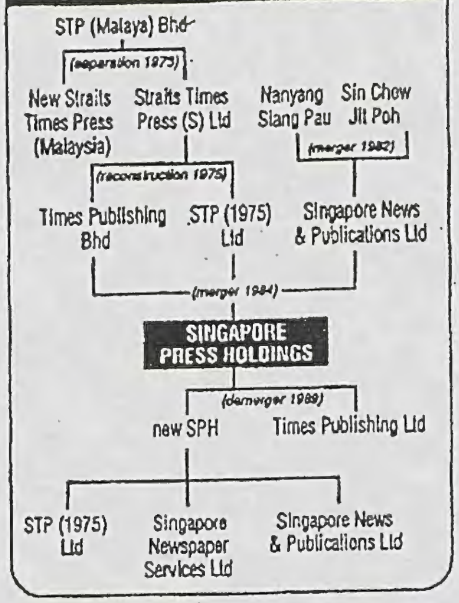
When this radical approach to advertising sales was first suggested, a common reaction within the group was to question its need and its efficacy. Wouldn't it take away that competitive spirit, that identity with a product that is so important in journalism?

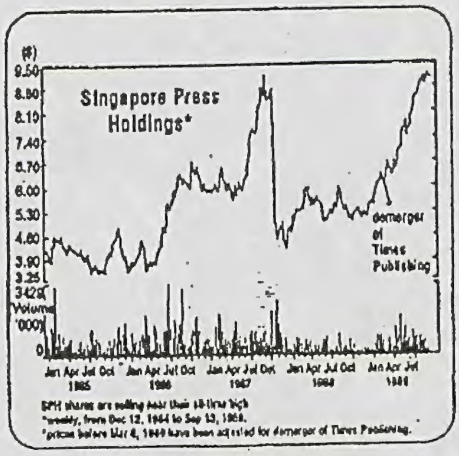
Mr Lim acknowledges the need for competition: "Yes, among ourselves we can compete, but to a certain limit. You don't compete in such a way that you waste your resources." It just does not make sense for the publications of one newspaper group to fight for the same advertising dollar. Marketing efforts should be directed to enlarge the group's share of the total advertising market, which means competing against non-print rivals.

Lots of things did not make sense to Mr Lim when he first applied his mind to the workings of SPH. He could not understand how a major company could be run so sloppily and without any system, or strategy, or a readiness to explore new ideas. He was shocked at the lack of proper supervisory systems in some of the companies in the group; "How did anyone come to this decision? No one knows. What brought you to this decision? No one knows. No argument, no paper, nothing. And the true facts are hidden in volumes of figures." Mr Lim's next target is setting up proper management and decision-making systems — now that his message about cutting wastage has been understood and accepted.

Accepting the chairman's message has been a painful process. Initially, the call to curb waste was seen as a move to cut costs — at all costs. Rumours of a retrenchment exercise abounded. The freeze on recruitment (which has been relaxed), a new pay and benefits structure that cut back on annual leave benefits for executives, the pressure felt by the managers and editors to improve efficiency, the growing sense of a lack of continuity in previous policies, and the uncertainty about just what was in store under the new chairman took a heavy toll on the employees' morale. Staff attrition grew — so much so that

Mergers & demergers through the years





Mr Lim decided to personally conduct some of the exit interviews.

There are still grumbles here and there, some carping about the restrictions on spending and the productivity measures that have been instituted. But increasingly, staffers acknowledge that some past practices were indulgent and that the chairman's corrective measures will strengthen the group.

Keeping costs down will continue to be a major concern for SPH. At present, the cost of actually printing each copy of The Straits Times, including editorial expenses, is about $1.15. The wholesale price is 40 cents. Thus, for every copy of the ST printed, the group incurs an outright production loss of 75 cents. That adds up to $229,000 a day, based on a print order of 305,000. The Straits Times publishes 311 issues in a year, so the annual production shortfall s $71 million. It is an irony of the newspaper business that the more copies you sell, the higher your production loss will be.

Of course, what makes newspapers viable is the income supplied by adverting sales. On average, advertisements bring in about 75 per cent of the turnover — three times the amount generated from sales of the newspapers. Moreover, a growing circulation can justify increases in the price of advertising space.

The group currently prints nearly 800,000 newspapers daily, slightly more for the weekend editions. "That's quite a lot for a population of 2.6 million," said the chairman. Still, he is targeting for group circulation to rise by another 100,000 within two years.

While Singapore's total advertising revenues have increased every year except during the 1984-1986 slump, SPH's slice of the cake has not. The newspapers' share of total advertising revenue peaked at 59 per cent in 1984, dropped to 55 per cent in 1985 and has since levelled off at around 50 to 51 per cent. Television's share grew from 26 per cent in 1984 to 35 per cent in 1986 before dropping back to the present share of about 33 percent.

A point emphasised by Mr Lim is that SPH is not a monopoly that can raise cover prices and advertising rates at will just to maintain its profit level. While SPH may have a virtual hold on the print media, competition from other media will restrict increases in advertisement rates.

Cover prices (the selling price of newspapers on the newsstand) are not due for an increase because the price of newsprint, a major item in the cost of production has stabilised. In addition, the plan to use narrower rolls of newsprint will help control costs. Mr Lim points out that as the only newspaper group in Singapore (except for Tamil Murasu), SPH has a social responsibility to ensure that the printed word is cheaply available to as many people as possible.

The biggest concern now is staff costs. This item has surpassed newsprint as the largest expense component in recent years. Wages, contributions to the Central Provident Fund and other benefits added up to more than a third of the expenditures incurred in the 12 months that ended August 31, 1988. For the 1988-89 fiscal year, total staff costs took up 36 per cent of total expenditure, four percentage points ahead of newsprint.

The solution to rising staff costs is not to cut back on staff or pay, Mr Lim said, but to ensure that every person gives value for money. Thus, his emphasis on an objective and effective staff appraisal system.

Distribution costs are also being studied. Singapore readers' days of having their newspapers delivered to their homes early in the morning may be numbered. Rising costs and the growing difficulty of finding workers to deliver newspapers are likely to force the shift towards other distribution methods, such as automatic dispensers on street corners. If consumers insist on the convenience of picking up their papers from their doorsteps, the group may have to impose a delivery charge.

Another area Mr Lim and his team are examining is the return on the group's other assets, including a huge cash pile of $225 million. About $100 million is currently managed by outside fund managers. The balance is managed internally and is mainly held in fixed deposits. One idea being explored is for SPH to create an in-house treasury unit.

SPH has a considerable land bank, a good part of it in residential properties located in exclusive neighbourhoods. Real estate income can be improved considerably simply by renting these out at market rates rather than at the ridiculously-low rents that are now being levied.

While he sees property as one leg — and a steady one — for the group, Mr Lim rules out any major redevelopment for the time being. "Firstly, the cost of construction now is too high, and secondly, there is too much building going on

PROPERTY AS A SECOND LEG?

SPH properties/location	Tenure	Purpose
1. Times House, 390 Kim Seng Road	Freehold	Industrial
2. Times Industrial Building, 422 Thomson Road	Freehold	Industrial
3. News Centre, 82 Genting Lane	Leasehold	Industrial
4. Times Jurong, 2 Jurong Port Road	Leasehold	Industrial
5. SNPL Industrial Building, 31 International Road	Leasehold	Industrial
6. Ground Floor Manhattan House Unit Nos #01-51 to 56, 151 Chin Swee Road	Leasehold	Commercial
7. Nos. 12 to 28 (even Nos. only), Swettenham Road	Freehold	Residential
8. Nos. 20, 22 &37, Yarwood Avenue	Leasehold	Residential
9. 42 Nassim Road	Freehold	Residential
10. 42, 42A, 44, 44A Belmont Road	Freehold	Residential
11. 69/70 Mohamed Sultan Road	Freehold	Warehouse

already." He will be receptive if an attractive offer is made for any of the group's properties, but his plan is to wait for the next property downturn and then consider redevelopment.

As a newspaper company, the group faces certain restrictions on its activities; its printing licences , must be renewed every year. Still, it is not limited , only to newspapering and is exploring other business ideas.

For instance, the considerable information contained in the newspapers' libraries can be stored electronically for use in commercial, computerised data-bases. Also, the group could export its expertise in setting up and running newspapers or consider publishing joint-ventures in the region. It has taken a small stake in a newsprint mill in Vancouver, partly to ensure that it understands that business from the suppliers' side.

But such projects are for the professionals in the group to propose and for the new chief executive officer, when he is found, to implement, the chairman said. In the meantime, he will consider any proposal that comes along. His analysis will, of course, be guided by basic business principles: Is it viable? Does it make sense?

Mr Lim insists that his main job at Singapore Press Holdings is to establish proper corporate housekeeping by sweeping away the cobwebs, putting in place effective management systems, and making sure that the right people are where they are needed. In the process, he aims to turn SPH into the "throbbing, thriving enterprise" that, he says it can and should be.

FROM HAND PRESS TO 'THUNDERER OF THE EAST'

Nearly 150 years ago, a group of Singapore Armenians decided the island needed another English language journal. The first edition of The Straits Times (& Singapore Journal of Commerce as it was called for a while) rolled off a clanking hand press on July 15, 1845.

Circulation was poor. The average weekly readership was 97 — against the 400 achieved by The Singapore Free Press, which had been established in 1824. In time, the original owners were forced to sell the paper to its editor Robert Carr Woods who introduced a daily afternoon edition, the Singapore Daily Times. Mr Woods later sold his growing newspaper business because of his increasing involvement in community affairs. The new owners were ex-mariners Mr John Cameron and Capt E M Smith. The latter proved to be an effective editor and influential writer. Following a fire at his office, the afternoon paper was closed, but The Straits Times flourished.

The next few decades saw The Straits Times grow in stature. With the introduction of modern printing presses, circulation soared. London critics once dubbed it the "Thunderer of the East", a reference to the other thunderer, the highly-respected Times of London.

During the Great Depression, The Straits Times went on an acquisition binge, buying up the Pinang Gazette, The Times of Malaya and later, the Selangor Free Press. By end-1931, The Sunday Times was launched. The slump eventually reached the East and The Straits Times halved its cover price to five cents.

Singapore surrendered to the Japanese in early 1942 and publication of The Straits Times was suspended for the next three-and-a-half years. After the war, The Straits Times ventured into commercial printing. By 1950, when it went public, daily circulation had reached 50 000.

Despite the communist insurgency and state of emergency, The Straits Times was delivered every night by road to readers throughout Malaya. A separate edition in Kuala Lumpur was started in 1956, followed by the debut of Berita Harian, Singapore's Malay-language daily, the next year.

Bill Simmons, who had played a key role in the company since 1935, became chairman and managing director in 1964 during a period of tumultuous change. In 1963, Singapore joined the Federation of Malaysia but then split away in 1965. Following enactment of new Companies Acts that abolished management shares, The Straits Times passed to local hands. Mr Simmons resigned. The restructuring saw the creation of three separate, independent holding companies — The Straits Times Press (1975), Times Publishing and the New Straits Times, in which Times Publishing held a 20 per cent stake. The stake in NST was eventually sold in 1984 for a huge profit which provided the basis for the group's huge cash trove.

After the war, The Straits Times faced a number of competitors, which included the Singapore Standard, Singapore Herald, Eastern Sun and, most recently, The Singapore Monitor. Each eventually folded. In the last major newspaper restructuring, The STP (1975), Times Publishing and Singapore News and Publications Ltd, owners of the Chinese language papers and The Singapore Monitor, were merged in 1984 under a single holding company, and Singapore Press Holdings was born. Times Publishing was demerged earlier this year.

EXTROVERT WHO BELIEVES IN HANDS-ON APPROACH

When Mr Lim Kim San was offered the chairmanship of Singapore Press Holdings last year by its board of directors, he had one condition: he had to be given executive powers. It was typical of a man who has always taken a hands-on approach to his work.

In early 1981, Dr Goh Keng Swee then first deputy prime minister and chairman of their Monetary Authority of Singapore, roped in Mr Lim to handle the revamp of the nation's de facto central bank. He gave up the post of MAS managing director in September the next year, satisfied that morale and management had improved and that the MAS team was capable of running the show.

His greatest achievement was in solving Singapore's acute housing shortage in the early 1960s. As the first chairman of the Housing and Development Board and, later, as Minister of National Development, he was credited with building more homes in three years than previous governments had managed to construct in three decades.

He made his political debut in 1963 in Cairnhill, winning a Legislative Assembly seat. By the time he retired from politics in 1981, he had been through five other ministries — Finance, Interior and Defence, Education, Communication and Environment.

Mr Lim ... "I don't sit down and think. I get ideas when I am discussing and interacting. It is through discussion that I get stimulated enough to formulate ideas."

He had also served a stint as chairman of the Public Utilities Board, and he is still chairman of the Port of Singapore Authority, a post he has held since 1979. During his decade at PSA, he has supervised the expansion of what is now the world's busiest port.

Mr Lim describes himself as an extrovert. "I don't sit down and think. I get ideas when I am discussing and interacting. It is through discussion that I get stimulated enough to formulate ideas."

Like many of his generation, he cannot identify with some aspects of Singapore's affluent lifestyles. "Don't ask me to spend $200 on a shirt. Even if the money is given to me, I can't spend $200 on a shirt." And yet, this is also the man who says: "If we go on doing things the traditional way, we'll all become museum pieces."

BATTLE FOR READERS SPURRED MERGER OF CHINESE PAPERS

For almost a century, the Chinese daily, Lat Pao, established in 1881 by the son of a wealthy entrepreneur, was regarded as the pioneer Chinese paper in Singapore. But in a lively, if inconclusive debate in 1982, Singapore's two main Chinese dailies, Sin Chew Jit Poh and Nanyang Siang Pau, challenged the history books and each other. Nanyang contended that the first Chinese paper in South Seas was Ri Sheng Pao, which had been started 23 years before Lat Pao. Sin Chew, countered that "The Chinese Monthly Magazine" was the region's first.

The debate took place even as Sin Chew and Nanyang were being merged into what is now the Lian He Zaobao/Wanbao. By 1981, the papers rivalry was intense, with each trying to outdo the other. In April 1982, the government announced the merger, citing the growing tendency of Chinese to send their children to English-language schools. (Ironically, in 1971, senior Nanyang managers and journalists were detained by the government under the Internal Security Act for stirring Chinese chauvinism by playing on language issues.)

Nanyany was launched in 1923 by rubber magnate Tan Kah Kee, father-in-law of Lee Kong Chian. It was controlled by the Lee family for the next five decades. Tiger Balm king Aw Boon Haw founded Sin Chew in 1929 to cater to the overseas Chinese in Singapore. During the 1920s and the 1930s, Sin Chew had correspondents in Shanghai, Amoy and Hongkong. While Nanyany was critical of Chiang Kai Shek, Sin Chew appeared to support the Kuomintang regime. Sin Chew also had its share of brushes with the authorities, particularly after Singapore became self-governing in 1959; the government objected to references to Taiwan as "our country".

The 1970s proved to be a decade of change for Chinese newspapers. Slater Walker, then a favourite in London's financial market, stunned the local corporate community in 1971 by snapping up 51 per cent of Haw Par Brothers International, which controlled Sin Chew through a holding company. The Aw family subsequently bought back the shares of the holding company.

Like The Straits Times, both Sin Chew and Nanyang had expanded into Malaysia. There, in 1976, Sin Chew's editor-in-chief Chan Kien Sin was detained for playing up the Communist cause. By the early 70s, Singapore's papers had severed links with their Malaysian counterparts.

In 1977, both Sin Chew and Nanyang were publicly listed. Control passed from the founding families to managers who were beholden to shareholders. With the Sin Chew-Nanyang merger, the government had intended that the new entity, later named Singapore News and Publications Ltd (SNPL), would print an English daily to compete with The Straits Times. The latter loaned the New Nation title to SNPL in exchange for the right to own a Chinese daily (Shin Min). SNPL's New Nation, later called The Singapore Monitor, lost $26 million in its first few years and was closed in July 1985.

The prospect of a "hard circulation struggle" between The Straits Times Press and SNPL groups proved too much for major shareholders. In July 1984, a merger was announced.

WHAT THE CHAIRMAN HAS TO SAY ABOUT ...

The outlook for The New Paper

• Losses have been smaller and smaller. There is a need for an evening paper with a later offstone time to give the latest news and if your can make some features interesting enough without raising too many eyebrows, you might have the market.

It's a question of whether we can get the ads to come in. This is where the expert salesmen will come in to convince agencies and manufacturers and retailers that there are certain advantages in advertising in The New Paper.

We're reaching 50,000 (circulation) now. The evening market could be larger. The Chinese evening papers sell a combined total of 200,000 a day. It's probably a question of distribution. But first, we must make it interesting so people look forward to it, and not just for sensational news.

The losses are slowly going down. Experts tell me that it takes about three years for a new newspaper to breakeven. We'll wait and watch.

"There are certain constraints to being a journalist in Singapore. But if you are not a subversive, do not oppose for the sake of opposition, or try to be funny by writing barbs, you'll survive. And you can improve our papers by being more analytical on local subjects, critical in a constructive way."
— Mr Lim Kim San

Culturally disparate newspaper groups

• It's very important that people with different cultural backgrounds sit down together and interact. You learn a lot about the sensitivities of other races, about problems that face us in Singapore. And you can write better because of that and you won't stir up sensitive issues unnecessarily.

A cultural fuse takes time. The Americans took 200 years and they're more or less fused but there's still cultural antagonism. As the Prime Minister says, it's the reality of life.

Journalism in Singapore

• There are certain constraints to being a journalist in Singapore. But if you are not a subversive, do not oppose for the sake of opposition, or try to be funny by writing barbs, you'll survive. And you can improve our papers by being more analytical on local subjects, critical in a constructive way.

You need, first and foremost, people who love journalism and who have a very inquiring mind, well-read people who have thought deeply on certain subjects, whether it's foreign affairs or the financial markets.

Perception that S'pore press is sycophantic

• It's inevitable. We have only one government and one newspaper group. You must present the views of the Government, you must report the facts, and you must, as the sole newspaper group, promote the objectives of the Government. And I think the objectives of the Government are good objectives — to raise the standard of living, have a stable political and economic structure.

Of course, in advocating the policies towards the objectives, the Government has its own way of doing things. It may not be the right way, for all you know. The only thing is they have been proved right so many times.

So you present it, and if you can give constructive criticism, I think the Government will accept it. Only when you write in a very sarcastic way, or with innuendoes and try to subvert the Government, then they will look upon it with disfavour. So would any other government.

So the fact is that we are the only newspaper group and people say it is quasi-government — you can't help it. But you can, by presenting the facts, help explain and clarify government policies and objectives to the public. Even though you don't believe it, explain it. And then if you think you have got a better way of doing it, present it.

I think we sometimes go overboard (in praising the Government). The Government would like you to be credible. When you go overboard, you're not doing the Government a service, nor yourself a service.

On quality of local journalism

• You know, after I left (political) office, I was asked one day: "Do you still read the papers carefully now?" I said: "I just read the headlines and then throw them away." I think there are grounds for improvement.

How he assesses a person's worth

• Gut feel.

ALPHA LYRACOM
SPACE COMMUNICATIONS

FACSIMILE MESSAGE SHEET
Fax: 203/622-9163

Date: 2/12/91

TO: MR. TOM WHITEHEAD
CLAY WHITEHEAD ASSOCIATES

FROM: TOM CARROW

Fax No: (703) 847-8804

Number of pages to follow 5.

Delivery instructions:

PLEASE DELIVER IMMEDIATELY [✓]
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MESSAGE:
1) ACTUALLY, COULD YOU PLEASE FAX ME YOUR CHANGES TO THE PRESENTATION;
2) PLEASE READ THE DOCUMENT "PRESS QUESTIONS DIRECTED TO ALPHA LYRACOM" AND RELAY ANY INSIGHTS TO ME. I'D LIKE TO GET THIS OFF TO JAPAN TODAY.

THANKS.

If transmission is incomplete, please call 203/622-6664.

PRESS QUESTIONS DIRECTED TO ALPHA LYRACOM

1) Present Service Activities in AOR

Alpha Lyracom operates the world's only privately-owned transoceanic international satellite communications system. Using its PAS-1 satellite, which provides coverage of Europe, North America, Latin America and the Caribbean, Alpha Lyracom provides video, data and voice telecommunications services to over 130 clients in more than 60 countries. Alpha Lyracom's primary services consist of (1) transponder sales and leases, (2) broadcast services (video and radio), and (3) data services (broadcast data, wideband data and VSAT's). The company offers a full range of communication services for media and industry.

2) Typical Features in Services, Technologies, Management etc.

Alpha Lyracom is a vertically integrated operator, which provides services on a contractual rather than a tariff basis. As a result, Alpha Lyracom can control both the space and ground segments of its satellite system and can offer its customers customized networks and a higher degree of quality, flexibility and reliability than services which rely on satellite capacity from Intelsat. Alpha Lyracom provides its customers with "one-stop shopping" and quick, responsive, innovative and low cost solutions to their telecommunication needs in an extremely complex regulatory environment. Alpha Lyracom also provides customers with network control, small inexpensive on-site earth stations and, in most areas, higher power availability.Alpha Lyracom's satellite operations offer customers superior service and technical performance.

3) Competitive Strategy for Survival Against AsiaSat and the proposed Orion, Columbia and UniSat Systems.

Alpha Lyracom provides communication services to more than 130 clients and operates in more than 60 countries. As the world's only operator of a privately owned transoceanic international satellite system, Alpha Lyracom has already developed operating expertise, experience working with government ministries and a worldwide reputation in the international telecommunications industry. Alpha Lyracom's established business operations and customer relations with global companies will provide it with a lead time of several years compared to any potential competitor.

4) Management Configuration of Business in the POR

Alpha Lyracom appreciates the importance of working with strong local partners in the Pacific Ocean market. Alpha Lyracom is most interested in working with Pacific companies who are leaders in complementary fields within the telecommunications industry. The global satellite venture offers not only a potentially attractive return on investment, but more importantly, the opportunity to integrate business operations, establish joint marketing agreements, and expand current business markets. The intended management configuration in the Pacific Ocean market is a mutually beneficial arrangement between Alpha Lyracom and a service provider, equipment manufacturer and/or lead customer.

5) Nikkei Article of January 8, 1991 About PanAmSat.

Alpha Lyracom was not consulted or interviewed with respect to the article in the Nikkei paper on January 8, 1991. Alpha Lyracom does not know the source of the information for the article, nor does the content of the article reflect our approach to gaining access in Japan at this time.

6) Schedule and Coverage Areas for Additional Satellites

Atlantic Ocean PAS-2: PAS-2 will provide improved coverage of the Atlantic Ocean region, including Western and Eastern Europe, North America, Latin America and the Caribbean (see attached map). The increased power provided by PAS-2 will provide customers with satellite transmissions of greater quality, flexibility, throughput and capacity. The launch date is the second half of 1993. The orbital slot is 39.5 degrees West Longitude. PAS-2 will have 24 36Mhz C-band transponders and 18 72Mhz Ku-band transponders.

Pacific Ocean PAS-3: PAS-3 will provide coverage of the Pacific Ocean region, including Japan, Korea, Taiwan, coastal China, Hong Kong, Thailand, Singapore, Malaysia, Philippines, Indonesia, Guam, the Pacific Islands, Australia, New Zealand, Hawaii and the western coast of the United States of America and Canada (see attached map). The launch date is the second half of 1994. The orbital slot is 192 degrees West Longitude. PAS-3 will have 24 36Mhz C-band transponders and 16 54Mhz Ku-band transponders.

Indian Ocean PAS-4: PAS-4 will provide coverage of the Indian Ocean region, including Europe (as far west as London), the central republics of the Soviet Union, Pakistan, India, Afghanistan, the Middle East, Eastern Africa, Australia, and Asia (as far west as Japan) Please see the attached map. The launch date 2nd half of 1994. The orbital slot is 68 degrees East Longitude. PAS-4 will have 24 36Mhz C-band transponders and 16 54Mhz Ku-band transponders.

7) Alpha Lyracom's Visit to Tokyo

Alpha Lyracom's visit to Tokyo from January 15th to January 26th was the first of many trips to Japan. Alpha Lyracom met with companies interested in investing in its global satellite venture, with current and potential customers and with certain government ministries. Overall, we were encouraged by the response from service providers, equipment manufacturers and lead customers to our global satellite venture.

CALENDAR OF MILESTONES

1991

January
Selection of Alpha Lyracom representatives/consultants in Asia Pacific.
Follow-up briefing to Pacific Investors and various government ministries.
Complete due diligence preparation.
United States Investor Formal Presentation

March
European Investor Formal Presentation.
Preliminary Equity Commitment.
Establishment of a Data Sales Office in Miami Florida.
Select satellite vendor for PAS-2 and PAS-3.
Award launch contractor.

June
Finalize Equity Investor Partnership.
Initial Equity Contribution.
Conditional Authorizations granted.
Procurement of PAS-2 and PAS-3 satellites and launch facilities.

September
Opening of an Alpha Lyracom office in the Pacific (Managing Director, Deputy, Secretary).

December

1992

January
Final Authorizations granted.
Development of a teleport in Venezuela staffed by 6 people.
March
Begin formal process of obtaining regulatory approval in the Pacific Ocean region.

June
Interim Equity Contribution.
Procurement of PAS-4 satellite and launch facilities.

September
Development of an Alpha Lyracom European teleport (England) staffed by ten people.

December

Establishment of a European Sales Office (Four Salespersons, Two Secretaries).
Begin formal process of obtaining regulatory approval in the Indian Ocean region.

1993

January

March

June
Final Equity Contribution.
Initial Senior Debt Funding.

September
Development of an Alpha Lyracom teleport in the Pacific Ocean region staffed by ten people.
Selection of Alpha Lyracom representatives/consultants in the Indian Ocean Region (India).
Establishment of an affiliated, not owned and operated, teleport in West Germany.
Partnership Cash Distribution.

December
Launch of PAS-2.

1994

January

Development of a teleport in California staffed by eight people.
Opening of Sales Office in California staffed by two people.
Establishment of an affiliated, not owned and operated, teleport in Scandinavia.
Opening of Sales Office in Australia staffed by three people.

March
Launch of PAS-3.
Build-up of Pacific Office to twelve people.
Development of a teleport in the Indian Ocean region staffed by ten people.
Opening of an Indian Ocean office (India/three people).
Establishment of an affiliated, not owned and operated, teleport in Australia.

June
Upgrade the Pacific and European teleports for global connectivity.

September
Completion of Senior Debt Financing.
Launch of PAS-4.
Build-up the Indian Office to eight people.
Opening of Sales Offices in Middle East and Africa with three people each.
Partnership Cash Distribution.

December

1995

January

March

June
Development of a teleport in Australia staffed by 6 people.

September
Partnership Cash Distribution.

December

ALPHA LYRACOM
SPACE COMMUNICATIONS

FACSIMILE MESSAGE SHEET
Fax: 203/622-9163

Date: 2/5/91

TO: MR. CLAY T. WHITEHEAD
CLAY WHITEHEAD ASSOCIATES

FROM: Tom CARROLL

Fax No: [redacted] 703-847-8804

Number of pages to follow 2.

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PLEASE DELIVER IMMEDIATELY [ ]

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MESSAGE: I TRUST YOUR TRIP WAS EVENTFUL.
PLEASE REVIEW THIS CALENDAR OF MILESTONES. I LEFT OUT ANNUAL SALES & BUDGET REVIEWS..... TO FOCUS ON NON-RECURRING MILESTONES. THIS IS BASIC AS IT STANDS.

TC

If transmission is incomplete, please call 203/622-6664.

June
Final Equity Contribution.
Initial Senior Debt Funding.

September
Partnership Cash Distribution.

December
Selection of Alpha Lyracom representatives/consultants in the Indian Ocean Region (India).

1994

Establishment of a teleport in the Pacific Ocean region.
Establishment of an Indian Ocean office (India).

March
Launch of PAS-3.
Establishment of a teleport in Los Angeles, California.

June
Establishment of a teleport in the Indian Ocean region.

September
Completion of Senior Debt Financing.
Launch of PAS-4.
Partnership Cash Distribution.

December
Establishment of a teleport in Latin America (Venezuela).

1995

March

June
Establishment of a teleport in Australia.

September
Partnership Cash Distribution.

December

CALENDAR OF MILESTONES

1991

Selection of Alpha Lyracom representatives/consultants in Japan and Korea.
Follow-up briefing to Pacific Investors and various government ministries.

March
European Investor Road Show.
United States Investor Road Show.
Equity Commitment.
Establishment of a Data Sales Office in Miami Florida.
Establishment of an Alpha Lyracom teleport in metropolitan New York.

June
Initial Equity Contribution.
Procurement of PAS-2 and PAS-3 satellites and launch facilities.

September
Opening of an Alpha Lyracom office in the Pacific.

December

1992

March

June
Interim Equity Contribution.
Procurement of PAS-4 satellite and launch facilities.

September

December
Establishment of European teleport (England).
Establishment of a European Sales Office.

1993

March
Launch of PAS-2.

Alpha Lyranom

Rene V. Anselmo started Pan American Satellite, a rival for the Intelsat consortium.

New Competition in the Sky, And Just in Time for the War

A private satellite is meeting demand for TV reports from the gulf.

By EDMUND L. ANDREWS

MILITARY contractors have not been the only companies to get a lift from the United States-led war against Iraq. The nearly insatiable demand for live television reports about the war has been a bonanza for companies providing satellite services.

But few operators have enjoyed the sweet vindication of Rene V. Anselmo, the founder of Pan American Satellite of Stamford, Conn. Two years ago, in what seemed like a good way to lose a fortune, Mr. Anselmo gambled $85 million from the sale of his former broadcasting businesses to buy and launch the first privately owned communications satellite over the Atlantic Ocean.

At the time, he faced heated opposition from regulators, had no assured customers and enough insurance to recover only half his costs if his satellite blew up during the launch. And he was lunging into a market controlled by Intelsat, a satellite consortium owned by organizations in 119 nations.

But today, Mr. Anselmo is virtually booked solid, offering cut-rate prices and fast bookings for television networks around the world. With 1991 sales likely to climb well beyond the company's initial projection of $25 million, he is now busy raising money for three more satellites.

To be sure, boom times have come to almost everybody in the satellite business since the war began. Intelsat has seen "spot" bookings for satellite time — those not reserved far in advance — surge to 400 programs a day, up from about 150. Bright Star Communications Ltd., based in London, which buys satellite time in large volume from Intelsat and then resells it, has roughly doubled its business. Even American companies like GTE Spacenet are busy, relaying signals from abroad to local stations across the United States.

While Pan American's satellite does not reach the Persian Gulf, it, too, has benefited from the war. Revenues from spot bookings surged to about $2 million for the last three weeks of January, up from $200,000 a month before the war, although business has dropped slightly as stations have trimmed back war coverage. There are also revenues from long-term leases with television networks on both sides of the Atlantic.

"It was busy before, but it's pandemonium now," said Mr. Anselmo.

The company's satellite has become a key link for European news organizations that broadcast live from Washington, like the British Broadcasting Corporation or SAT 1, the German network. It is also used heavily by American networks like CBS and ABC to transmit programming abroad and to supplement their direct satellite links to the Mideast by sending material through Europe.

The company's arrival has not brought prices down but has helped to improve service. "Pan Am Sat has been very good for the industry," said Charles E. Hoff, managing director for Cable News Network's satellite news gathering operations. "They offer a non-Intelsat alternative, essentially a free-market availability, and that has been good for all of us."

ONE of Pan American's first customers, CNN, has used its satellite mainly to send programming abroad but also to get material from overseas bureaus.

For Mr. Anselmo, who is 65 years old, Pan American is the second major project of his career. Born in Medford, Mass., he spent 11 years after college in Mexico, working for the Mexican television network, Televisa, and as an independent producer. In 1961, he came to the United States and, with other investors, bought a bankrupt UHF station and subsequently started up 14 others, all broadcasting in Spanish. That led to the founding of the Spanish International Network, financed in part by Televisa and offering Spanish-language programming to stations and cable systems in the United States and Latin America.

But Mr. Anselmo ran afoul of the Federal Communications Commission, which prohibits foreign control of television stations and contended that his were under foreign control because of Televisa's stake in SIN. After years of litigation, Mr. Anselmo sold his stations and separated himself from SIN in 1986. It was the $100 million from these sales that enabled him to buy and launch the satellite.

His timing turned out to be excellent. Mr. Anselmo bought a satellite from RCA and was able to take advantage of special incentives offered by Arianespace, the European rocket company, to launch the satellite for only $9 million. Arianespace was having trouble getting customers for a new launch rocket in part because of an explosion of an earlier rocket.

As a result, Mr. Anselmo was able to become operational for about $85 million. Buying and launching a comparable satellite today would cost $180 million to $200 million.

The satellite became operational just before the breakdown of Communist regimes in Eastern Europe and the fall of the Berlin wall generated a surge in demand for satellite capacity. "They were in the right place at the right time," remarked Timothy Logue, space and telecommunications analyst with the Washington law firm of Reid & Priest. "News organizations have an insatiable drive to beat their opponents, and they will turn to whatever means are available."

The start-up of Pan American would have come off without a hitch if not for regulatory barriers.

Under longstanding international agreements, the Intelsat consortium had until Pan American's arrival enjoyed a virtual monopoly over international satellite communications. Under the system, participating countries designate companies — usually government-owned telephone companies — that serve as their representative to Intelsat. These companies transmit and receive material from Intelsat satellites and charge their customers, who supply telephone, data and television services. In the United States, access to Intelsat is controlled by the Communications Satellite Corporation, a for-profit company.

IN part because regulators feared that a competitor would undermine Intelsat, and in part because Pan American would inevitably deprive governments of Intelsat fees, Mr. Anselmo's plan to offer a competitive service generated heated opposition.

Although the Reagan Administration in 1983 endorsed the idea of limited competition with Intelsat, it took Mr. Anselmo from 1984 to September 1987 to get final launch approval from the Federal Communications Commission. Even then, he didn't have a viable business because only one other country, Peru, had agreed to allow people within its borders to communicate over the new satellite.

WITH patience, persistence and pressure from major communications users, Mr. Anselmo began receiving "landing rights" for his satellite from other countries. By the time of the launch in 1988, he had agreements with a half-dozen countries, including West Germany. Almost 70 countries have since opened up to the new satellite.

Today, Pan American, whose communications base in Florida houses 10 earthstations, is booked almost to capacity. Pricing is complicated, but the rates appear to be somewhat cheaper than the competition's. The company says prices vary from less than $1,000 for an hour of satellite time to $2,400, depending on a customer's annual usage. It says most customers pay less than $1,300. That does not include the charge for using transmission stations on the ground, which can add a few hundred dollars at each end.

> In the beginning, only the U.S. and Peru sanctioned Pan American.

By contrast, Bright Star Communications, which resells time with Intelsat, charges $1,700 to $2,250 an hour, including earthstation fees. Comsat, the American Intelsat representative, charges a flat rate of $2,637 an hour, which includes earthstation fees.

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DAEWOO
DAEWOO CORPORATION

541, 5-GA, NAMDAEMOON-RO, JUNG-GU, SEOUL, KOREA
C.P.O. BOX 2810, 8269, SEOUL, KOREA / TELEX: DAEWOO K23341-5 DWDEV K24444, K22868 / CABLE: "DAEWOO" SEOULTEL: 759-2114

Memo on Alpha Lyracom/Pan Am Sat Project

Aerospace & Services Dept.

General prospect of the Project is considered promising in view of the growing market situation. However, it has to be noted that regulatory restrictions pose barriers in market evolution.

Daewoo has just entered into space related business, and is not in a position, for the moment, to participate in such downstream sector of satellite communications business, which is at present monopolized in Korea by government owned Korea Telecom(K.T).

K.T is established to launch domestic communications satellite KOREASAT 1 in 1995, which will provide services with 15 transponders (12-Communication, 3-Broadcasting). It seems that the Korean market will not allow other private services before the end of '90s.

It is advisable for us to study future strategic participation in this kind of venture business in close conjunction with market evolution and development of our capability in space business.

541, 5-GA, NAMDAEMOON-RO, JUNG-GU, SEOUL, KOREA
C. P. O. BOX 2810, 8269, SEOUL, KOREA / TELEX: DAEWOO K23341-5 DWDEV K24444, K22868 / CABLE: "DAEWOO" SEOULTEL: 759-2114

January 29, 1991

Mr. Andrew H. Rush
Donaldson, Lufkin &
Jenrette Securities Corp.
140 Broadway, New York
NY 10005, U. S. A.

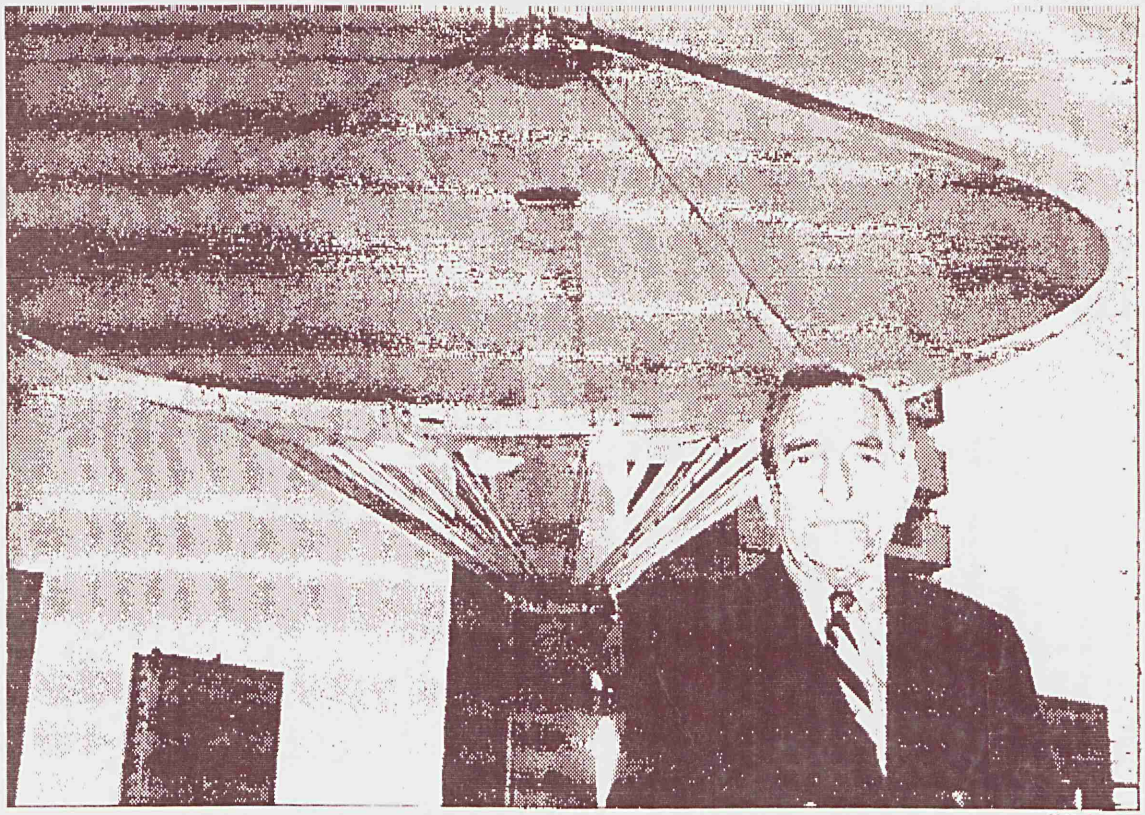
Dear Mr. Rush,

I would like to acknowledge with thanks your letter dated January 2 and enclosed documents regarding Alpha Lyracom/Pan American Satellite. I referred the matter to the Aerospace & Services Dept. of Daewoo Corporation for study and consideration. They reported to me the enclosed memo, which is self-explanatory.

Thank you very much for kindly contacting me on the matter. Please convey the best regards of my family and myself to Susie.

Sincerely yours,

Suk-Heun YUN



Alpha Lyracom

Rene V. Anselmo started Pan American Satellite, a rival for the Intelsat consortium.

New Competition in the Sky, And Just in Time for the War

A private satellite is meeting demand for TV reports from the gulf.

By EDMUND L. ANDREWS

MILITARY contractors have not been the only companies to get a lift from the United States-led war against Iraq. The nearly insatiable demand for live television reports about the war has been a bonanza for companies providing satellite services.

But few operators have enjoyed the sweet vindication of Rene V. Anselmo, the founder of Pan American Satellite of Stamford, Conn. Two years ago, in what seemed like a good way to lose a fortune, Mr. Anselmo gambled $85 million from the sale of his former broadcasting businesses to buy and launch the first privately owned communications satellite over the Atlantic Ocean.

At the time, he faced heated opposition from regulators, had no assured customers and enough insurance to recover only half his costs if his satellite blew up during the launch. And he was lunging into a market controlled by Intelsat, a satellite consortium owned by organizations in 119 nations.

But today, Mr. Anselmo is virtually booked solid, offering cut-rate prices and fast bookings for television networks around the world. With 1991 sales likely to climb well beyond the company's initial projection of $25 million, he is now busy raising money for three more satellites.

To be sure, boom times have come to almost everybody in the satellite business since the war began. Intelsat has seen "spot" bookings for satellite time — those not reserved far in advance — surge to 400 programs a day, up from about 150. Bright Star Communications Ltd., based in London, which buys satellite time in large volume from Intelsat and then resells it, has roughly doubled its business. Even American companies like GTE Spacenet are busy, relaying signals from abroad to local stations across the United States.

While Pan American's satellite does not reach the Persian Gulf, it, too, has benefited from the war. Revenues from spot bookings surged to about $2 million for the last three weeks of January, up from $200,000 a month before the war, although business has dropped slightly as stations have trimmed back war coverage. There are also revenues from long-term leases with television networks on both sides of the Atlantic.

"It was busy before, but it's pandemonium now," said Mr. Anselmo.

The company's satellite has become a key link for European news organizations that broadcast live from Washington, like the British Broadcasting Corporation or SAT 1, the German network. It is also used heavily by American networks like CBS and ABC to transmit programming abroad and to supplement their direct satellite links to the Mideast by sending material through Europe.

The company's arrival has not brought prices down but has helped to improve service. "Pan Am Sat has been very good for the industry," said Charles E. Hoff, managing director for Cable News Network's satellite news gathering operations. "They offer a non-Intelsat alternative, essentially a free-market availability, and that has been good for all of us."

ONE of Pan American's first customers, CNN, has used its satellite mainly to send programming abroad but also to get material from overseas bureaus.

For Mr. Anselmo, who is 65 years old, Pan American is the second major project of his career. Born in Medford, Mass., he spent 11 years after college in Mexico, working for the Mexican television network, Televisa, and as an independent producer. In 1961, he came to the United States and, with other investors, bought a bankrupt UHF station and subsequently started up 14 others, all broadcasting in Spanish. That led to the founding of the Spanish International Network, financed in part by Televisa and offering Spanish-language programming to stations and cable systems in the United States and Latin America.

But Mr. Anselmo ran afoul of the Federal Communications Commission, which prohibits foreign control of television stations and contended that his were under foreign control because of Televisa's stake in SIN. After years of litigation, Mr. Anselmo sold his stations and separated himself from SIN in 1986. It was the $100 million from these sales that enabled him to buy and launch the satellite.

His timing turned out to be excellent. Mr. Anselmo bought a satellite from RCA and was able to take advantage of special incentives offered by Arianespace, the European rocket company, to launch the satellite for only $9 million. Arianespace was having trouble getting customers for a new launch rocket in part because of an explosion of an earlier rocket.

As a result, Mr. Anselmo was able to become operational for about $85 million. Buying and launching a comparable satellite today would cost $180 million to $200 million.

The satellite became operational just before the breakdown of Communist regimes in Eastern Europe and the fall of the Berlin wall generated a surge in demand for satellite capacity. "They were in the right place at the right time," remarked Timothy Logue, space and telecommunications analyst with the Washington law firm of Reid & Priest. "News organizations have an insatiable drive to beat their opponents, and they will turn to whatever means are available."

The start-up of Pan American would have come off without a hitch if not for regulatory barriers.

Under longstanding international agreements, the Intelsat consortium had until Pan American's arrival enjoyed a virtual monopoly over international satellite communications. Under the system, participating countries designate companies — usually government-owned telephone companies — that serve as their representative to Intelsat. These companies transmit and receive material from Intelsat satellites and charge their customers, who supply telephone, data and television services. In the United States, access to Intelsat is controlled by the Communications Satellite Corporation, a for-profit company.

IN part because regulators feared that a competitor would undermine Intelsat, and in part because Pan American would inevitably deprive governments of Intelsat fees, Mr. Anselmo's plan to offer a competitive service generated heated opposition.

Although the Reagan Administration in 1983 endorsed the idea of limited competition with Intelsat, it took Mr. Anselmo from 1984 to September 1987 to get final launch approval from the Federal Communications Commission. Even then, he didn't have a viable business because only one other country, Peru, had agreed to allow people within its borders to communicate over the new satellite.

WITH patience, persistence and pressure from major communications users, Mr. Anselmo began receiving "landing rights" for his satellite from other countries. By the time of the launch in 1988, he had agreements with a half-dozen countries, including West Germany. Almost 70 countries have since opened up to the new satellite.

Today, Pan American, whose communications base in Florida houses 10 earthstations, is booked almost to capacity. Pricing is complicated, but the rates appear to be somewhat cheaper than the competition's. The company says prices vary from less than $1,000 for an hour of satellite time to $2,400, depending on a customer's annual usage. It says most customers pay less than $1,300. That does not include the charge for using transmission stations on the ground, which can add a few hundred dollars at each end.

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ASCII
ASCII CORPORATION

KAZUHIKO NISHI
President

Three F Minami Aoyama Bldg.
6-11-1 Minami Aoyama, Minato-ku
Tokyo, 107-24 Japan

Phone: +81 3 3486-9650
Fax: +81 3 3499-2146
Telex: J28764 ASCII

ASCII
ASCII CORPORATION

KENJI OHTOMO
Manager
External Relations Group
Technical Planning Department
Corporate Division

6F Column Minami Aoyama Bldg.
7-1-5 Minami Aoyama Minato-ku
Tokyo 107-24 Japan

Phone: +81 3 486-1207
Fax: +81 3 486-0373
TLX: J28764 ASCII
Ken-o @ascii.co.jp

HIROYUKI SHINOKI
DEPUTY GENERAL MANAGER
COMMUNICATIONS BUSINESS DEPT.

. ITOH & CO., LTD.

5-1, KITA-AOYAMA 2-CHOME,
MINATO-KU, TOKYO, JAPAN
MAIL: TOKYO 107-77 JAPAN
PHONE: TOKYO (03) 3497-3225
FAX: (03) 3497-3177
TELEX: J23111 ITOHCHU

TETSUZO MATSUMOTO
GENERAL MANAGER
COMMUNICATIONS BUSINESS DEPT.

C. ITOH & CO., LTD.

5-1, KITA-AOYAMA 2-CHOME,
MINATO-KU, TOKYO, JAPAN
MAIL: TOKYO 107-77 JAPAN
PHONE: TOKYO (03) 497-3186
FAX: (03) 497-3177
TELEX: J23111 ITOHCHU

HIDEAKI KIDO
GROUP MANAGER
SATELLITE BUSINESS DEVELOPMENT SECTION

COMMUNICATIONS
BUSINESS DEPARTMENT
C. ITOH & CO., LTD.

5-1, KITA-AOYAMA 2-CHOME,
MINATO-KU, TOKYO, JAPAN
MAIL: TOKYO 107-77 JAPAN
PHONE: TOKYO (03) 3497-3226
FAX: (03) 3497-3177
TELEX: J23111 ITOHCHU

KDD
Overseas Communications Japan

Kiichi Tabuchi
Senior Account Manager
1st Sales Dept.,
Marketing and Sales Headquarters

Kokusai Denshin Denwa Co., Ltd.
2-2, Marunouchi 2-chome
Chiyoda-ku, Tokyo 100. Japan

National	(03) 3240-8420
International	+81 3 3240-8420
TLX.	24700(KDDSALES J24700)
FAX.	(03) 3240-8437

KDD

Hiroshi Ichihara
Executive Vice President

KDD (Overseas Telecommunications Japan)
3-2, Nishishinjuku 2-chome
Shinjuku-ku, Tokyo 163, Japan
Tel.

National	*(03) 3347-7531*
International	*+81 3 3347-7531*
Facsimile	*(03) 3347-7548*

+ Contact person

KAZUNORI INAGAKI
MANAGER
ENGINEERING DIVISION-TRANSMISSION SYSTEMS
CORPORATE & NETWORK PLANNING DEPARTMENT
KOKUSAI DENSHIN DENWA CO., LTD. (KDD)
3-2, NISHISHINJUKU 2-CHOME,
SHINJUKU-KU, TOKYO 163, JAPAN

NATIONAL	(03) 347 7090
INTERNATIONAL	+81 3 347 7090
FAX:	+81 3 347 6362
TLX:	J22500 KDDTOKYO

SEI KAGEYAMA
MANAGING DIRECTOR
MARKETING AND SALES HEADQUARTERS
KOKUSAI DENSHIN DENWA CO., LTD. (KDD)

3-2, NISHISHINJUKU, 2-CHOME.
SHINJUKU-KU, TOKYO 163
JAPAN

TEL.	
NATIONAL	(03) 347-7531
INTERNATIONAL	+81 3 347-7531
TELEX: KDDTOKYO	J22500
FAX.	+81 3 347-7548

YOSHIJI SEKIDO
DEPUTY DIRECTOR
CORPORATE & NETWORK PLANNING DEPARTMENT
KOKUSAI DENSHIN DENWA CO., LTD. (KDD)
3-2, NISHISHINJUKU 2-CHOME,
SHINJUKU-KU, TOKYO 163, JAPAN

NATIONAL	(03) 3347 7102
INTERNATIONAL	+81 3 3347 7102
FAX:	+81 3 3347 6362
TLX:	J22500 KDDTOKYO

TAMIO FUKUI
ASSISTANT MANAGER
NETWORK PLANNING DIVISION
CORPORATE & NETWORK PLANNING DEPARTMENT
KOKUSAI DENSHIN DENWA CO.,LTD.(KDD)
3-2, NISHISHINJUKU 2-CHOME,
SHINJUKU-KU, TOKYO 163, JAPAN

NATIONAL	(03) 347 7059
INTERNATIONAL	+81 3 347 7059
FAX:	+81 3 347 6362
TLX:	J22500 KDDTOKYO

KAZUO YOSHIDA
MANAGING DIRECTOR
CORPORATE & NETWORK PLANNING
KOKUSAI DENSHIN DENWA CO., LTD. (KDD)

3-2, NISHISHINJUKU, 2-CHOME.
SHINJUKU-KU, TOKYO 163
JAPAN

TEL.	
NATIONAL	(03) 3347-7531
INTERNATIONAL	+81 3 3347-7531
TELEX: KDDTOKYO	J22500
FAX.	+81 3 3347-7548

MORIYA KUMASAKI
SERVICE PLANNING DIVISION
-DATA TRANSMISSION & LEASED SERVICES
CORPORATE PLANNING & SERVICE DEVELOPMENT DEPARTMENT
KOKUSAI DENSHIN DENWA CO., LTD. (KDD)
3-2, NISHISHINJUKU 2-CHOME,
SHINJUKU-KU, TOKYO 163, JAPAN

NATIONAL	(03) 347 6033
INTERNATIONAL	+81 3 347 6033
FAX:	+81 3 347 6430

TATSUO SHIBATA
ASSISTANT MANAGER
ENGINEERING DIVISION - TRANSMISSION SYSTEMS
CORPORATE & NETWORK PLANNING DEPARTMENT
KOKUSAI DENSHIN DENWA CO.,LTD. KDD)
3-2, NISHISHINJUKU 2-CHOME,
SHINJUKU-KU, TOKYO 163, JAPAN

NATIONAL	(03) 347 7092
INTERNATIONAL	+81 3 347 7092
FAX:	+81 3 347 6362
TLX:	J22500 KDDTOKYO

SHIGEO MIYAUCHI
ASSISTANT DIRECTOR
OFFICE OF CORPORATE STRATEGY
KOKUSAI DENSHIN DENWA CO., LTD.(KDD)
3-2, NISHISHINJUKU 2-CHOME,
SHINJUKU-KU, TOKYO 163, JAPAN

NATIONAL	(03) 3347 7067
INTERNATIONAL	+81 3 3347 7067
TLX:	J22500 KDDTOKYO
FAX:	(03) 3347 5028

SHINICHIRO KOBAYASHI

ASSISTANT GENERAL MANAGER
TELECOMMUNICATION NETWORK BUSINESS DEPT.
MANAGER, INTERNATIONAL TELECOMMUNICATIONS
BUSINESS TEAM

MITSUBISHI CORPORATION
3-1, MARUNOUCHI 2-CHOME CHIYODA-KU, PHONE: (03) 210-7791
TOKYO 100-86, JAPAN FACSIMILE: (03) 210-7359
ADD THE DIGIT "3" IN FRONT OF THE PREVIOUS 3 - DIGIT
EXCHANGE CODE FROM 17 PM (GMT), DECEMBER 31, 1990.

TAKUZO KANAMORI

MANAGER
SPACE SYSTEMS TEAM A
AEROSPACE DEPT. A

MITSUBISHI CORPORATION
3-1, MARUNOUCHI 2-CHOME CHIYODA-KU, PHONE: 81-3-3210-4603
TOKYO 100-86, JAPAN FACSIMILE: 81-3-3210-4607/4295

ROBERT J. HAMILTON

MANAGER, SPACE COMMERCIALIZATION
SPACE SYSTEMS TEAM B
AEROSPACE DEPT. A

MITSUBISHI CORPORATION
3-1, MARUNOUCHI 2-CHOME, CHIYODA-KU, PHONE: (03) 210-4581
TOKYO 100-86, JAPAN FACSIMILE: (03) 210-4607/4295
ADD THE DIGIT "3" IN FRONT OF THE PREVIOUS 3 - DIGIT
EXCHANGE CODE FROM 17 PM (GMT), DECEMBER 31, 1990.

SHIN-ICHI YABE

SPACE SYSTEMS TEAM A
AEROSPACE. DEPT. A

MITSUBISHI CORPORATION
3-1, MARUNOUCHI 2-CHOME, CHIYODA-KU, PHONE: 81-3-210-4565
TOKYO 100-86, JAPAN FACSIMILE: 81-3-210-4607/4295
ADD THE DIGIT "3" IN FRONT OF THE PREVIOUS 3 - DIGIT
EXCHANGE CODE FROM 17 PM (GMT), DECEMBER 31, 1990.

YASUTO MIURA

CHIEF MANAGER
BUSINESS DIVISION IV
CORPORATE BANKING GROUP

THE MITSUBISHI TRUST
AND BANKING CORPORATION

4-5, MARUNOUCHI 1-CHOME
CHIYODA-KU, TOKYO 100, JAPAN
TEL 03-212-1211 FAX 03-214-2721

YOICHI YOKOMIZO

MANAGER, PLANNING & INVESTMENT TEAM
INFORMATION SYSTEMS & SERVICES GROUP
PLANNING & COORDINATION DEPT.

MITSUBISHI CORPORATION
3-1, MARUNOUCHI 2-CHOME CHIYODA-KU, PHONE: (03) 3210-8728
TOKYO 100-86, JAPAN FACSIMILE: (03) 3210-8972
TELEX: MCTOK A J33333

TOSHIO YAMAMOTO

ASSISTANT MANAGER
BUSINESS DIVISION IV
CORPORATE BANKING GROUP

THE MITSUBISHI TRUST
AND BANKING CORPORATION

4-5, MARUNOUCHI 1-CHOME
CHIYODA-KU, TOKYO 100, JAPAN
TEL 03-212-1211 FAX 03-214-2721
DIRECT 03-287-3606

GE Aerospace

Arlo A. Brown, Ph.D.
Manager, Business Development, Japan

GE Aerospace Far East, Ltd.
Kowa 35 Bldg., 14-14, Akasaka 1-chome
Minato-ku, Tokyo 107, Japan
Tel: 81-3-3588-5230, Fax: 81-3-3588-5262

GE Astro Space

Peter R. Cresse
Marketing Manager, Japan

GE Aerospace Far East, Ltd.
Kowa 35 Bldg., 14-14, Akasaka 1-chome
Minato-ku, Tokyo 107, Japan
Tel: 81-3-3588-5247, Fax: 81-3-3588-5262

KUMAMOTO Shin'ichi

STAFF WRITER

ARTS & CULTURE NEWS DEPARTMENT

ASAHI SHIMBUN
5-3-2 TSUKIJI CHUO-KU,
TOKYO 104-11. JAPAN

PHONE: (03) 3545-0131
FAX : (03) 3545-6967

LINGUABANK, INC.

REIKO ŌTSUKI

CONFERENCE INTERPRETER

302, PARKWEST HIRAKAWA
11-10, HIRAKAWACHO 2-CHOME,
CHIYODA-KU, TOKYO 102, JAPAN
PHONE: (03) 234-7575

Ichiro Suzuki
Director
Market Development Department

International Satellite Communications Society, Inc.

3-2, Nishishinjuku 2 chome,
Shinjuku-ku, Tokyo 163 Japan
Tel.
National (03) 347 5163
International +81 3 347 5163
Fax. (03) 347 5165

NAGATA, Hideo
Executive Managing Director

International Satellite Communications Society, Inc.

3-2, Nishishinjuku 2-chome,
Shinjuku-ku, Tokyo 163 Japan
Tel.
National (03) 347 5161
International +81 3 347 5161
Fax. (03) 347 5165

HUGHES
NETWORK SYSTEMS

Subsidiary of
Hughes Aircraft Company

MICHAEL J. SANTOS
Asia / Pacific Manager
Hughes Network
Systems International

11717 Exploration Lane
Germantown, MD 20876, U.S.A.

Tel (301) 428-7151
FAX (301) 428-7099/2830

Dinner
NHK

EITARO MOHRI

MANAGER NEWS EXCHANGE &
SATELLITE OPERATIONS
FOREIGN NEWS DPT., NHK
(JAPAN BROADCASTING CORPORATION)

2-2-1, JINNAN, SHIBUYA-KU
TOKYO, JAPAN

TEL. 03-374-5971
03-5478-3565
TLX. 25916 SATNHK
FAX. TOKYO 481-1809
1810

INTERNATIONAL TELECOM JAPAN INC.

NOBUO ITO

Executive Vice President

Tsukiji KY Bldg., 7-5, Tsukiji 4-Chome
Chuo-ku, Tokyo, 104 Japan

Telephone: National (03)5565 0012
International +81 3 5565 0012
Telex: J 28169 ITJ Fax: (03)5565 0007

INTERNATIONAL TELECOM JAPAN INC.

KIKUZO ITOH

Managing Director

Tsukiji KY Bldg., 7-5, Tsukiji 4-Chome
Chuo-ku, Tokyo, 104 Japan

Telephone: National (03)5565 0130
International +81 3 5565 0130
Telex: J 28169 ITJ Fax: (03)5565 0007

INTERNATIONAL TELECOM JAPAN INC.

KATSUHIRO HIIRO

Manager
International

Tsukiji KY Bldg., 7-5, Tsukiji 4-Chome
Chuo-ku, Tokyo, 104 Japan

Telephone: National (03)5565 5302
International +81 3 5565 5302
Telex: J 28169 ITJ Fax: (03)5565 0007

INTERNATIONAL TELECOM JAPAN INC.

HIROSHI OHASHI

Managing Director

Tsukiji KY Bldg., 7-5, Tsukiji 4-Chome
Chuo-ku, Tokyo, 104 Japan

Telephone: National (03)5565 0140
International +81 3 5565 0140
Telex: J 28169 ITJ Fax: (03)5565 0007

INTERNATIONAL TELECOM JAPAN INC.

DON A. N. JAYAMANNE

Assistant Manager
Satellite Communications Dept.
Engineering Headquarters

Tsukiji KY Bldg., 7-5, Tsukiji 4-Chome
Chuo-ku, Tokyo, 104 Japan

Telephone: National (03)5565 0088
International +81 3 5565 0088
Telex: J28169 ITJ ENHQ Fax: (03)5565 0006

JC·SAT

FLOYD R. STUART
Senior Managing Director

Japan Communications
Satellite Company, Inc.
No.40 Mori Bldg.
5-13-1 Toranomon Minato-ku
Tokyo 105 Japan
TEL (03)3432-6379(Direct)
FAX (03)3437-6620

JC·SAT

JAMES G. BEITCHMAN, Ph.D.
General Manager
System Engineering Department

Japan Communications
Satellite Company, Inc.
No.40 Mori Bldg.
5-13-1 Toranomon Minato-ku
Tokyo 105 Japan
TEL (03)3432-6330(Direct)
FAX (03)5472-7647

JC·SAT

NAOSHI SUZUKI
General Manager-Technical
System Engineering Department

Japan Communications
Satellite Company, Inc.
No.40 Mori Bldg.
5-13-1 Toranomon Minato-Ku
Tokyo 105 Japan
TEL(03)432-5630
FAX(03)5472-7647

JC·SAT

EIICHI MATSUMOTO
General Manager
Marketing Department 1
Marketing Division

Japan Communications
Satellite Company, Inc.
No.40 Mori Bldg.
5-13-1 Toranomon Minato-Ku
Tokyo 105 Japan
TEL(03)437-3951
FAX(03)5472-7647

IDC International Digital Communications Inc.

TOSHIMITSU TAKAOKA

MANAGER
PRODUCT DEVELOPMENT

6TH FLOOR, FUJITA KANKO TORANOMON BLDG
3-17-1 TORANOMON, MINATO-KU, TOKYO, 105 JAPAN

TEL: National (03)5470-5244
International +81-3-5470-5244
FAX: National (03)5470-5119
International +81-3-5470-5119
TLX: 2425667 IDCTYO

IDC International Digital Communications Inc.

J.(Jim) H. RICHARDS

EXECUTIVE ADVISOR NETWORK PLANNING

6TH FLOOR, FUJITA KANKO TORANOMON BLDG
3-17-1 TORANOMON, MINATO-KU, TOKYO, 105 JAPAN

TEL: National (03)5470-5187
International +81-3-5470-5187
FAX: National (03)5470-5228
International +81-3-5470-5228
TLX: 2425667 IDCTYO

IDC International Digital Communications Inc.

MASAHIKO KATO

MANAGER
TECHNICAL SERVICE DEPARTMENT

6TH FLOOR, FUJITA KANKO TORANOMON BLDG
3-17-1 TORANOMON, MINATO-KU, TOKYO, 105 JAPAN

TEL: National (03)5470-5170
International +81-3-5470-5170
FAX: National (03)5470-5117
International +81-3-5470-5117
TLX: 2425667 IDCTYO

IDC International Digital Communications Inc.

TAKUJI TSUBA

DIRECTOR
NETWORK ADMINISTRATION DEPARTMENT

6TH FLOOR, FUJITA KANKO TORANOMON BLDG
3-17-1 TORANOMON, MINATO-KU, TOKYO, 105 JAPAN

TEL: National (03)5470-5145
International +81-3-5470-5145
FAX: National (03)5470-5228
International +81-3-5470-5228
TLX 2425667 IDCTYO

IDC International Digital Communications Inc.

KEN TOMIKAWA

DEPUTY GENERAL MANAGER
NETWORK ADMINISTRATION DEPARTMENT

6TH FLOOR, FUJITA KANKO TORANOMON BLDG
3-17-1 TORANOMON, MINATO-KU, TOKYO, 105 JAPAN

TEL: National (03)5470-5238
International +81-3-5470-5238
FAX: National (03)5470-5228
International +81-3-5470-5228
TLX 2425667 IDCTYO

IDC International Digital Communications Inc.

SHIGE MATOBA

ASSISTANT MANAGER
PLANNING DEPARTMENT

6TH FLOOR, FUJITA KANKO TORANOMON BLDG
3-17-1 TORANOMON, MINATO-KU, TOKYO, 105, JAPAN

TEL: National (03)5470-5141
International +81-3-5470-5141
FAX: National (03)5470-5228
International +81-3-5470-5228
TLX: 2425667 IDCTYO

IDC International Digital Communications Inc.

NORIO IKEZAWA

ASSISTANT MANAGER
MARKETING DEPARTMENT

6TH FLOOR, FUJITA KANKO TORANOMON BLDG
3-17-1 TORANOMON, MINATO-KU, TOKYO, 105 JAPAN

TEL: National (03)5470-5168
International +81-3-5470-5168
FAX: National (03)5470-5117
International +81-3-5470-5117
TLX 2425667 IDCTYO

HIROSHI NISHIGUCHI

ASSISTANT GENERAL MANAGER
SATELLITE PROJECT DEPARTMENT
TELECOMMUNICATION BUSINESS & PROJECT DIV.

MITSUI & CO., LTD.
2-1, OHTEMACHI 1-CHOME,
CHIYODA-KU, TOKYO

TEL : (03) 285 - 7371
FAX : (03) 285 - 9441

NISSHO IWAI

NORIO SAITOH
General Manager
Information & Electronics Business Division

NISSHO IWAI CORPORATION 03-3588-2637
4-5, Akasaka 2-chome, Minato-ku,
Tokyo 107 Japan

NISSHO IWAI

SEIJI YAMAMOTO
General Manager
Information & Communication
Systems Division

NISSHO IWAI CORPORATION
4-5, Akasaka 2-chome,
Minato-ku, Tokyo 107
Japan

TEL: 03-588-4029
FAX: 03-588-4935
CompuServe I.D 74360, 1635
NIFTY-Serve I.D NIE 00083

NISSHO IWAI

REIICHI YOSHIMOTO
Managing Director
Computer & Communications Group

NISSHO IWAI CORPORATION 03-3588-2500
4-5, Akasaka 2-chome, Minato-ku,
Tokyo 107 Japan

Satellite Japan Corporation

MITSUGI IIJIMA
Managing Director

Roppongi MY Bldg.,
2-1-13, Roppongi
Minato-ku, Tokyo 106
Japan

Tel.: 03-588-3005
Fax.: 03-588-3060
CompuServe I.D 74310,2072
NIFTY-Serve I.D PDB 02072

NISSHO IWAI

NORIKAZU YABUSHITA
Assistant Manager
Satellite Business Team
Satellite Communications Office

NISSHO IWAI CORPORATION
4-5, Akasaka 2-chome,
Minato-ku, Tokyo 107
Japan

Tel 03-588-3584
Fax 03-588-4935

NISSHO IWAI

KOICHI (KEN) MORI
Project Ccordinator
Telecommunications Systems Dept.
Information & Electronics Business Division

NISSHO IWAI CORPORATION 03-3588-2819
4-5, Akasaka 2-chome, Minato-ku,
Tokyo 107 Japan
Telex: NICTK A J 22233
Cable: NISSHOIWAI TOKYO
Facsimile: 03-3588-4693/3975

Satellite Japan Corporation

HIDEMITSU ONUKI
Deputy General Manager
Marketing & Planning Department

Roppongi MY Bldg.,
2-1-13, Roppongi
Minato-ku, Tokyo 106
Japan

Tel.: 03-3588-3057
Fax.: 03-3588-3060
CompuServe I.D 74360,1637
NIFTY-Serve I.D PDG 01637

ORIX Corporation

OSAMU KAWASHIMA

Manager
Research and Development Dept.

World Trade Center Bldg., 35F, 2-4-1
Hamamatsu-cho, Minato-ku, Tokyo, 105, Japan
TEL : 03-3435-6955 FAX : 03-3459-1378
TELEX : J24642

ORIX Corporation

MINORU OHSAWA

Assistant Manager
Research and Development Dept.

World Trade Center Bldg., 35F, 2-4-1
Hamamatsu-cho, Minato-ku, Tokyo, 105, Japan
TEL : 03-3435-6955 FAX : 03-3459-1378
TELEX : J24642

OKURA&CO.,LTD.

Hiro Kimura
Deputy General Manager
Aerospace & Communications Dept.

6-12, Ginza 2-Chome, Chuo-Ku Tokyo 104, Japan
Tel.03-3566-6307 Telex.J22306 Fax.03-3563-0696

OKURA&CO.,LTD.

Morio Kubota
Assistant Manager
Space Communications systems sect.
Aerospace & Communications Dept.

6-12, Ginza 2-Chome, Chuo-Ku Tokyo 104, Japan
Tel.03-3566-6307 Telex.J22306 Fax.03-3563-0696

GE Aerospace

Joseph W. Krum
Financial Analyst

Tadashi Kase
Manager, Business
Development, Japan

GE Aerospace Far East, Ltd.
Kowa 35 Bldg., 14-14, Akasaka 1-chome
Minato-ku, Tokyo 107, Japan
Tel: 81-3-3588-5230, Fax: 81-3-3588-5262

OKURA&CO.,LTD.

Naohiko Takeuchi
General Manager
Space & communications systems
Aerospace & Communications Dept.

6-12, Ginza 2-Chome, Chuo-Ku Tokyo 104, Japan
Tel.03-3566-6307 Telex.J22306 Fax.03-3563-0696

Marubeni

AL. SATOH
SENIOR ASSISTANT TO THE GENERAL MANAGER,
INFORMATION BUSINESS & ELECTRONICS DIV.

MARUBENI CORPORATION
4-2, OHTEMACHI 1-CHOME
CHIYODA-KU, TOKYO, JAPAN
TEL. TOKYO (03) 3282 - 9623
TELEX: J22326, J22327, J22328

Marubeni

GENE. Y. NIWA
MANAGER,
TELECOMMUNICATIONS SEC.
INFORMATION BUSINESS DEPT.

MARUBENI CORPORATION
4-2, OHTEMACHI 1-CHOME
CHIYODA-KU, TOKYO, JAPAN
TEL. TOKYO (03) 3282-2364
FAX. TOKYO (03) 3282-4264

Satellite Japan Corporation

MINORU TANIMICHI
General Manager
Advisor to Managing Director

Roppongi MY Bldg.,
2-1-13, Roppongi
Minato-ku, Tokyo 106
Japan

Tel.: 03-588-3059
Fax.: 03-588-3060
CompuServe I.D 72031,3360
NIFTY-Serve I.D NAD 03360

DEPUTY DIRECTOR, OFFICE OF SCIENCE AND
TECHNOLOGY ADVISORS
MINISTRY OF COMMUNICATIONS

Prof. Dr. W. H. CHEN

2, CHANG-SHA ST., SEC. 1
TAIPEI, TAIWAN 10001,
REPUBLIC OF CHINA

TEL: (02) 312-2476
311-2688
FAX: (02) 311-9669

INFO

STEPHEN HSU
CHAIRMAN AND CEO

INFO GROUP :
INFOTECH International Corp.
INFOCOMM International Corp.
NYFOCOM International Corp.
INFOFONE Corp.
13F, 102, Tung-Hwa N. Road, Taipei, Taiwan, R.O.C.
Telephone: (02) 719-2668 Telex: 23826 INFOTWN
Fax: (886)-2-719-2667

WALT HWANG
CHAIRMAN & CEO OFFICE
ASSISTANT TO CEO AND CHAIRMAN

INFO

INFOCOMM International Corp.
13F, 102, Tung-Hwa N. Road,
Taipei, Taiwan, R.O.C.
Telephone: (02) 719-2668
Telex: 23826
Fax: (886)-2-719-2667

Yih-Hwa Hwang
Special Assistant
to the President

INVESTEC
Consultants to Management

INVESTEC (TAIWAN) LTD.
14/F, 147 Chien Kuo N. Rd., Sec. 2
Taipei, Taiwan, R.O.C.
Telephone: 503-6226
Telex: 28514 INVESTEC
Fax: (02) 501-4753

Michael J. McNabb
Vice President

INVESTEC
Consultants to Management

INVESTEC (TAIWAN) LTD.
14/F, 147 Chien Kuo N. Rd., Sec. 2
Taipei, Taiwan, R.O.C.
Telephone: 503-6226
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Suite 1103, No.207
Tun Hwa North Road
Taipei 10592 R.O.C.

Tel : (2)718-1222
Fax: (2)718-4602
Tlx : 16666 JIINJDC

BUREAU:

9F-5, No.2
Shin Sheng South Road
Sec.3, Taipei 10617 R.O.C.

Tel : (2)362-6455
Fax: (2)362-8266
Tlx : 16666 JIINJDC

HONG KONG

JDC DATA PROCESSING ASIA HOLDING (HONG KONG) LTD.

Suite B4, 3rd Floor
21 Moreton Terrace
Causeway Bay, Hong Kong

Tel : (852)895-5259
Fax: (852)895-5340
Tlx : 68373 JDCAG HX

LOS ANGELES

JOSLIN COMMUNICATION (U.S.A.), INC.

23402 E. Mane Dr.
Diamond Bar CA 91765
U.S.A.

Tel : (714)396-9916
Fax: (714)396-9946

方重龍 *Tadelock Fong*
President

BANGKOK

JF COMPEX (THAILAND) CO., LTD.

Room 708-9, Panavongs Building,
104 Suriwongse Road,
Bangkok 10500, Thailand

Tel : (2)234-0974
(2)234-0906
Fax: (2)237-7029
(2)236-4576
Tlx : 72103 PANAVON TH

LONDON

CONEXXUS PLC.

21, Warple Way
Acton, London W3 0RQ,
England

Tel : (81)740-1122
Fax: (81)740-4469
Tlx : 297940 UNEXT G

JDC
INC.

Specialists in Executive Search

Christopher Traub
Managing Director

Suite 504, 21st Century Building
207, Tun Hwa N. Road, Taipei, Taiwan,
Tel: (02)514-0443 Fax: (02)719-8124
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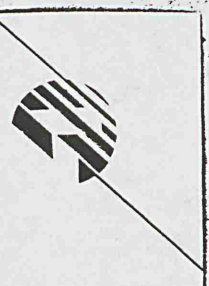


JOSEPH C. CHOU
PRESIDENT AND CHIEF
EXECUTIVE OFFICER

TAIWAN TELECOMMUNICATION NETWORK SERVICES CO., LTD.
Walsin Financial Building
10th Fl., 675, Min Sheng East Road, Taipei, Taiwan, R. O. C.
Tel: (02) 719-2788 Ext. 200
Fax: (02) 719-7982 TTN-Serve ID: TTN 00001

TAIWAN TELECOM
NETWORK

DAVID S. CHEN, PH. D.
VICE PRESIDENT
CHIEF FINANCIAL OFFICER

TAIWAN TELECOMMUNICATION NETWORK SERVICES CO., LTD.
Walsin Financial Building
10th Fl., 675, Min Sheng East Road, Taipei, Taiwan, R. O. C.
Tel: (02) 719-2788 Ext. 206
Fax: (02) 719-7982

CHINA TIMES

Hwang Wen-Fa

MANAGER
RESEARCH & DEVELOPMENT
COMPUTER DIVISION

8F, NO. 240, SEC. 3.
HO-PING WEST ROAD.
TAIPEI, TAIWAN.
REPUBLIC OF CHINA

TEL: 308-7111 EXT. 8811
5156

FAX: (02) 3062573

Albert Yu

PUBLISHER

CHINA TIMES

132, DA-LE STREET,
TAIPEI, TAIWAN.
REPUBLIC OF CHINA

TEL:3 0 8 - 7 1 1 1

Winston

SIMON CHENG
President

InfoTimes
Corporation

Head Office:
132, Da-Lee Street, Times Bldg.
Taipei, Taiwan, R.O.C.
Tel: 886-2-3087111, 3021702
Fax: 886-2-3069456

Sales Dept:
6-7 Fl. 240, Sec. 3, Hopping W. Rd.
Taipei, Taiwan, R.O.C.
Tel: 886-2-3024955, 3023699
Fax: 886-2-3022771, 3023799

The Beverly Plaza
Taipei

Susan Pan
Director of Operations

576, Tun Hua S. Road.
Taipei, Taiwan. R.O.C.
Tel: (02)7082151 Ext 8414
Office: 7551433
Fax: (02)7093287 · 7059210
Telex: 22101 BEVERLY

HAN KU
Development Engineering Co., Ltd.

R. T. Peng
Executive Director

Room. 502. No. 136. Jen Ai Road. Sec. 3.
Taipei. 10628. Taiwan. R. O. C.
TEL: 886-2-7044740 FAX: 886-2-7046029

MORRISON EXPRESS

Thang-Sou Chiu
CHAIRMAN OF THE BOARD

MORRISON EXPRESS CORP. LTD.
25, Jen Ai Rd., Sec. 4, Taipei, Taiwan
Tel:(02)731-4411 Tlx: 23838 MECCARGO
Fax:(02)7710866, 7774300

CHIA HSIN CEMENT

NELSON AN-PING CHANG
PRESIDENT
CHIA HSIN CEMENT CORP.

CHIA HSIN BUILDING
96 CHUNG SHAN N. RD. SEC. 2,
TAIPEI, (10449) TAIWAN, R.O.C.

TEL: 8515211-241
CABLE: OLYMPIA TAIPEI
TELEX: 11390 IHSINMILL TAIPEI
FAX: 886(2)523-1204
886(2)581-8320

Cheng-Kwei Chou Ph. D.
VICE PRESIDENT
INSTITUTE FOR INFORMATION INDUSTRY

11 FL., 106, HOPING E. RD., SEC. 2
TAIPEI, TAIWAN, R. O. C.

TEL: (02) 737-7105
FAX: (02) 737-7100

Yun Kuo
SECTION CHIEF
DEPARTMENT OF RADIO & TELEVISION AFFAIRS
GOVERNMENT INFORMATION OFFICE

2, TIEN TSIN STREET
TAIPEI, TAIWAN
REPUBLIC OF CHINA

TEL.: (O) 322-8657
351-5549
(H) 8710840

Government Information Office
DEPARTMENT OF INTERNATIONAL INFORMATION SERVICE

Ben Ping-Yun Shao
STAFF SECRETARY

2 TIENTSIN STREET
TAIPEI, TAIWAN 10041
REPUBLIC OF CHINA

TEL: 322-8547~8548
322-8873~8874
FAX: (02) 3939243

天強
TAC
TAIWAN ASTRODYNE CORPORATION

DR. JAMES H. SOONG. P. E.
PRESIDENT

6F. NO. 39 CHI-NAN RD. SEC. 3
TAIPEI, TAIWAN, R. O. C.

TEL: (02) 777-4035
FAX: (02) 776-1849

Alexander Chou-Tou
INFORMATION & PROTOCOL OFFICER
DIVISION OF INFORMATION & PROTOCOL
GOVERNMENT INFORMATION OFFICE

2, TIENTSIN STREET
TAIPEI (10041) TAIWAN
REPUBLIC OF CHINA

TEL: (02) 392-5287
(02) 322-8523
(02) 931-8387 (H)

NI, KUNG-CHAO
DIRECTOR
DEPARTMENT OF INTERNATIONAL INFORMATION SERVICE
GOVERNMENT INFORMATION OFFICE
REPUBLIC OF CHINA

2, TIEN TSIN STREET
TAIPEI, TAIWAN 10041
REPUBLIC OF CHINA

TEL: 3 9 1 6 1 0 3
3228888-8540

Shan-Teng Chung
VICE PRESIDENT, PROJECT GROUP III

CTCI CORPORATION

695. TUN HWA SOUTH ROAD
TAIPEI. TAIWAN. (10661)
REPUBLIC OF CHINA

TEL: (02) 700-9659
(02) 709-4368
FAX: (886-2) 709-9303
TELEX: 11734 CHITECH

HUGHES
NETWORK SYSTEMS
International Service Company
Subsidiary of
Hughes Network Systems

NORMAN CHENG
Regional Manager, Asia Pacific

11717 Exploration Lane
Germantown, MD 20870, U.S.A
Tel (301)428-7151
Twx (710)828-0541
FAX (301)428-7099/2830

Suite 1004, Bank Tower
205 Tun Hwa N. Rd.,
Taipei Taiwan R.O.C.
TEL: (886-2)5147122/23
FAX: (886-2)5147126

Goh Yoke Lim
Engineer
Mobile Satellite Planning

Singapore Telecom

500 Rifle Range Road #02-00
Bukit Timah Satellite Earth Station
Singapore 2158
Republic of Singapore

Tel: (65) 4609204
Tlx: RS 51118 SSTEL
Fax: (65) 4672061

Miss June Ong J. P.
Engineer
Satellite Systems Department

Singapore Telecom

500 Rifle Range Road #02-00
Bukit Timah Satellite Earth Station
Singapore 2158
Republic of Singapore

Tel: (65) 4609206
Tlx: RS 51118
Fax: (65) 4672061

Dr Chia Choon Wei
Vice President
Ventures

Singapore Telecom

31 Exeter Road #22-00
Comcentre
Singapore 0923
Republic of Singapore

Tel: (65) 7302340
Tlx: RS 33311
Fax: (65) 7349131

Dr William Chang
Department Manager
Teleview Systems Development

Singapore Telecom

31 Exeter Road
Comcentre
Singapore 0923
Republic of Singapore

Tel: (65) 7343344
(65) 7302301 (DID)
Tlx: RS 33311
Fax: (65) 7349130

Sin Hang Boon
Vice President
Business Communications

Singapore Telecom

31 Exeter Road #26-00
Comcentre
Singapore 0923
Republic of Singapore

Tel: (65) 7303270
Fax: (65) 7334713

Tay Chek Khoon
Department Manager
Satellite Systems Department

Singapore Telecom

500 Rifle Range Road #02-00
Bukit Timah Satellite Earth Station
Singapore 2158
Republic of Singapore

Tel: (65) 4609200
Tlx: RS 51118
Fax: (65) 4672061

TEMASEK HOLDINGS (PRIVATE) LIMITED

Christopher Lim Hwee Tat
Assistant Manager

8 Shenton Way #38-03 Treasury Building Singapore 0106
Tel: 2204981 Telex: RS 22654 THL Fax: 2256908 DID NO: 3200726

TEMASEK HOLDINGS (PRIVATE) LIMITED

Wong Heng Tew
Senior Vice President

8 Shenton Way, #38-03 Treasury Building Singapore 0106
Tel: 2204981 Telex: RS 22654 THL Fax: 2256908 DID NO: 3200 720

Vertex Management Pte Ltd

3 Lim Teck Kim Road #12-01/02
Singapore Technologies Bldg
Singapore 0208

Lee Kheng Nam
Vice President
& General Manager

Tel: (65) 3207271
Fax: (65) 2226944

A member of **Singapore Technologies**

Vertex Management Pte Ltd

3 Lim Teck Kim Road #12-01/02
Singapore Technologies Bldg
Singapore 0208

Song Siow Hui
Sr. Manager

Tel: 2231288/3207274 (D)
Tlx: RS 55876 STC
Fax:2226944

A member of **Singapore Technologies**

Jeffrey Lee Chay Khiong
Investment Manager

DBS VENTURE INVESTMENTS

6 Shenton Way, DBS Building, Singapore 0106.
Telephone: 2201111/3215027 (DID)/2211424 (Direct)
Cable: DBSBANK Telex: RS 43124 DBSCFS
SWIFT Dest: DBSSSGSG Facsimile: 2218847
Telebox: DBK 001

Christopher Chia Kam Pooi
Senior Investment Analyst

DBS VENTURE INVESTMENTS

6 Shenton Way, DBS Building, Singapore 0106
Telephone: 2201111/3215002 (DID) Cable: DBSBANK
Telex: RS 43124 DBSCFS SWIFT Dest: DBSSSGSG
Facsimile: 2218847 Telebox: DBK 001

Denis Tay Koon Tek
Chief Operating Officer

Singapore Press Holdings

Singapore Press Holdings Limited
News Centre Level 4
82 Genting Lane Singapore 1334
Tel: 743-8800 DID: 740-1078
Direct Line: 749-2515
Telex: RS 55148 SPHNC
Fax: 749-2505

TAN TECK HUAT
Manager
Corporate Planning &
Business Development

Singapore Press Holdings Limited
82 Genting Lane, News Centre, Singapore 1334
Tel : 743-8800 DID: 740-1872 **Telex:** RS 55148 SPHNC
Fax: 744-9949

李 棹 尧
Lee Cheok Yew
Deputy Group General Manager
Marketing

Singapore Press Holdings

Singapore Press Holdings Limited
News Centre
82 Genting Lane Singapore 1334
Tel: 743-8800 DID: 740-1508
Telex: RS 55653 LHBAO
Fax: 746-6878

NOTES ON TOKYO, TAIPEI AND SINGAPORE

TOKYO

NISSHO IWAI 1/18/91

Meeting:

Information Request: Information on how quickly satellite capacity is filled.

Follow-Up: Interested. Orion conflict.

ORIX 1/21/91

Meeting: ORIX is an investor in Sat. Japan. ORIX is financial investor not strategic investor. Could be part of a consortium. Interested in domestic media business more than international, but interested in international as step towards expansion. Interested in IRR and then potential synergies. Seemed interested.

Information Request: Detailed projections.

Follow-Up: Interested.

ITJ 1/21/91

Meeting: ITJ owns parts of fiber cables and earth stations. ITJ needs more capacity and thus wants to encourage private satellites. Intelsat does not provide enough capacity to satisfy ITJ.

Information Request:

Follow-Up:

OKURA 1/22/91

Meeting: Okura studied the Offering Memorandum and had detailed questions. Had questions on our market projections. Very concerned about regulatory issues. Financing for Okura and other Japanese companies tight. GE is building new BS satellites [?]. Member of Fuji Bank trading group with Marubeni. [?] Seemed interested.

Information Request: Detailed projections and market projections.

Follow-Up: Interested. Limited financial resources.

MITSUBISHI 1/22/91

Meeting: Mr. Kobayashi heads Mitsubishi's investment in ITJ. Mitsubishi has invested 2 billion yen [?] in ITJ. ITJ has a 15% market share. Mr. Kanamori looked at investment in PAS-1 in 1987. SCC (Space Communications Company) is part of Mitsubishi. Asked very detailed technical questions on regulations, slots, risles, projections, etc. Intelsat VIIs and Orion mentioned as competition by Mr. Kanamori. Seemed interested.

Information Request: Information on orbital slots.

Follow-Up: Interested. Super bird concerns

MARUBENI 1/22/91

Meeting: Investor in Satellite Japan. Skeptical that AL is profitable with $17 mm of revenues and that AL can operate with only 40 employees. Marubeni uses Astra in London and is discussing joint venture with NHK in Europe. Satellite Japan is disappointed with slow VSAT growth in Japan. Asked intelligent, technical questions. Impressed with our satellite construction prices, technical design and know-how. Asked who Rene is . Mr. Satoh was impressed -- stayed with us until 4:00 p.m., even though he had a meeting at 3:00 p.m. Mr. Tanimichi from Satellite Japan was very interested. Mr. Niwa (youngest member at meeting) was skeptical.

Information Request: Information on potential growth in PAS-1 revenues.

Follow-Up:

MITSUI 1/22/91

Meeting: Meeting in Japanese. Mr. Nishiguchi's interest grew during meeting and he was impressed with our detailed analysis of revenues and market. His view of market was less optimistic than ours.

Information Request: Information on market (historical and projected), Intelsat projections and projections.

Follow-Up:

C. ITOH 1/23/91 and 1/25/91

Meeting: (1/23/91) Mr. Matsumoto very friendly and very sharp. Mr. Matsumoto said MPT approval is very important and said a number of people have called C. ITOH asking about AL. Mr. Matsumoto is in charge of communications for C. Itoh and C. Itoh's investment in JCSAT and IDC. Mr. Kido has connections with Hughes. Mr. Mori (not present at meeting) is Mr. Matsumoto's boss. Questions were informed and a little skeptical, but Mr. Matsumoto did not seem to know how many satellites AL has now. Said Tom is "very famous." All C. Itoh members were very "westernized." Mr. Matsumoto was very interested in how AL operates in each country, who we have relationships with, what our agreements are like, etc. Unimpressed with $17 mm of revenues.

Meeting: (1/25/91) Mr. Matsumoto had called satellite section of MPT to tell them to attend AL's meeting with MPT. Liked AL's emphasis on services. Impressed with low sources and uses. Concerned about MPT. Mr. Matsumoto skeptical about market projections -- wideband data revenues in particular. Indicated that C. Itoh has cash limitations and that C. Itoh has a tough internal review process. IRR very important -- skeptical of our equity split. Appreciated strategic benefits and said C. Itoh has benefits to contribute. Said that C. Itoh was considering doing international services in Pacific itself. Said Hughes would have to be happy with C. Itoh's participation in project. Seemed very interested.

Information Request: Names of people of MPT meeting. Detailed projections and back-up materials. Historical and projected market information. Explanation of what type of services are included in each service category.

Follow-Up: Interested. Hughes, international conflict?

JCSAT 1/23/91

Meeting: Only satellite operator in Japan since Mitsubishi failed. JCSAT has large revenues in analogue one-way video for businesses. JCSAT has 42 full-time broadcast customers which lease full-time to their customers. JCSAT will soon be permitted to enter PSN and connect to KDD and NTT.

Information Request:

Follow-Up:

IDC 1/23/91

Meeting:

Information Request:

Follow-Up:

KDD 1/24/91

Meeting: Mr. Kageyama said interested in project but skeptical as to future market and potential profitability. At second meeting, junior members asked very detailed questions on operating agreements and market projections. Expressed interest, subject to studying details.

Information Request:

Follow-Up: Interested.

ASCII 1/26/91

Meeting: Mr. Nishi suggested we set up a company for Pacific owned 20% by AL and 80% by a Japanese consortium. Consortium would include ASCII, a broadcaster, a trading company (e.g. Mitsui), an electric utility with telecommunications subsidiary (fiber owner), and a finance company. Mr. Nishi said MPT approval could be obtained. Also suggested we launch another satellite for DHT broadcasting. Very aggressive and entrepreneurial. Interested.

Information Request:

Follow-Up: Interested.

TAIPEL

CHINA TRUST 1/29/91

Meeting: Mr. Chang had regulatory concerns, but believes their is a great demand for private satellite services. Already 30,000 + TVRO dishes in Taiwan [?]. Taiwan is seeking to be a financial center and will need satellite capacity.

Information Request:

Follow-Up:

GIO 1/29/91

Meeting: Contemplating setting up daily tv feed from Taiwan to U.S. May want AL's advise on which satellite distributor to use in U.S. for potential distribution.

Information Request:

Follow-Up:

TTNS 1/30/91

Meeting: Knew about Orion. Mr. Chen expressed interest in satellite consortium as part of AL's project. Had superficial technical questions and a general awareness of satellite technology.

Information Request:

Follow-Up:

CHINA TIMES 1/30/91

Meeting: Businesses include: China Times, Economic Times, Evening Express and Info Times (electronic media company). Mr. Yu came in late. MOC and DGT need transponders. AsiaSat may provide competition. (Tom couldn't stay in his chair.)

Information Request:

Follow-Up:

SINGAPORE

SINGAPORE TELECOM AND TEMASEK HOLDINGS 1/31/91

Meeting: Dr. Wei wanted to know how AL's financial performance compared to business plan. Concerned that $17 mm of revenues is too small. Temasek would only invest to support Singapore Telecom. Questions on VSATs and wideband data and compatability with Intelsat. (Boring presentation.)

Information Request:

Follow-Up:

SINGAPORE HOLDINGS 1/31/91

Meeting: Mr. Tek not very sophisticated on satellites and asked very basic questions. (Fred giggled.)

Information Request: Mr. Huat requested 1990 financial results.

Follow-Up:

DBS VENTURE AND VERTEX MANAGEMENT (Singapore Technologies) 2/1/91

Meeting: Vertex is involved in defense, areospace, shipping and industrial-computer applications. Basic knowledge of satellites; Mr. Hui knew a lot. Would invest as financial investors as part of a Singapore consortium.

Information Request:

Follow-Up:

DOCUMENTS WITHHELD FROM PRODUCTION
ATTORNEY CLIENT PRIVILEGE

111

PRESS QUESTIONS DIRECTED TO ALPHA LYRACOM

1) Present Service Activities in AOR

Alpha Lyracom operates the world's only privately-owned transoceanic international satellite communications system. Using its PAS-1 satellite, which provides coverage of Europe, North America, Latin America and the Caribbean, Alpha Lyracom provides video, data and voice telecommunications services to over 130 clients in more than 60 countries. Alpha Lyracom's primary services consist of (1) transponder sales (and leases), (2) broadcast video and radio services, and (3) broadcast data, wideband data and VSAT data services. The bulk of Alpha Lyracom's business stems from broadcast services and transponder sales, although revenues from data services are projected to grow rapidly and substantially.

2) Typical Features in Services, Technologies, Management etc.

Alpha Lyracom is a vertically integrated operator, which provides services on a contractual rather than a tariff basis. As a result, Alpha Lyracom can control both the space and ground segments of its satellite system and can offer its customers customized networks and a higher degree of quality, flexibility and reliability than services which rely on satellite capacity from Intelsat. Alpha Lyracom provides its customers with "one-stop shopping" and quick, responsive, innovative and low cost solutions to their telecommunication needs in an extremely complex regulatory environment. Alpha Lyracom also provides customers with network control, small inexpensive on-site earth stations and, in most areas, higher power availability.Alpha Lyracom's satellite operations offer customers superior service and technical performance.

3) Competitive Strategy for Survival Against AsiaSat and the proposed Orion, Columbia and UniSat Systems.

As the world's only operator of a privately owned transoceanic international satellite system, Alpha Lyracom has already developed operating expertise and a worldwide reputation in the international telecommunications industry. Alpha Lyracom provides communication services to more than 130 clients and operates in more than 60 countries. Alpha Lyracom's established business operations will provide it with a lead time of several years compared to any potential competitor.

4) Management Configuration of Business in the POR

Alpha Lyracom appreciates the importance of working with strong local partners in the Pacific Ocean market. Alpha Lyracom is most interested in working with Pacific companies who are leaders in complementary fields within the telecommunications industry. The global satellite venture offers not only a potentially attractive return on investment, but more importantly, the opportunity to integrate business operations, establish joint marketing agreements, and expand current business markets. The intended management configuration in the Pacific Ocean market is a mutually beneficial arrangement between Alpha Lyracom and a service provider, equipment manufacturer and/or lead customer.

5) Nikkei Article of January 8, 1991 About PanAmSat.

Alpha Lyracom was not consulted or interviewed with respect to the article in the Nikkei paper on January 8, 1991. Alpha Lyracom does not know the source of the information for the article, nor does the content of the article reflect our approach to gaining access in Japan at this time.

6) Schedule and Coverage Areas for Additional Satellites

Atlantic Ocean PAS-2: PAS-2 will provide improved coverage of the Atlantic Ocean region, including Western and Eastern Europe, North America, Latin America and the Caribbean. The increased power provided by PAS-2 will provide customers with satellite transmissions of greater quality, flexibility, throughput and capacity. The launch date is the first half of 1993. The orbital slot is 39.5 degrees West Longitude. PAS-2 will have 24 36Mhz C-band transponders and 18 72Mhz Ku-band transponders.

Pacific Ocean PAS-3: PAS-3 will provide coverage of the Pacific Ocean region, including Japan, Korea, Taiwan, coastal China, Hong Kong, Thailand, Singapore, Malaysia, Philippines, Indonesia, Guam, the Pacific Islands, Australia, New Zealand, Hawaii and the western coast of the United States of America and Canada. The launch date is the first half of 1994. The orbital slot is 192 degrees West Longitude. PAS-3 will have 24 36Mhz C-band transponders and 16 54Mhz Ku-band transponders.

Indian Ocean PAS-4: PAS-4 will provide coverage of the Indian Ocean region, including Europe (as far west as London), the central republics of the Soviet Union, Pakistan, India, Afghanistan, the Middle East, Eastern Africa, Australia, and Asia (as far west as Japan). The launch date 2nd half of 1994. The orbital slot is 68 degrees East Longitude. PAS-4 will have 24 36Mhz C-band transponders and 16 54Mhz Ku-band transponders.

7) Alpha Lyracom's Visit to Tokyo

Alpha Lyracom visited Tokyo from January 15th to January 26th to meet with companies interested in its global satellite venture, with current and potential customers and with certain government ministries. Overall, we are encouraged by the response from service providers, equipment manufacturers and lead customers to our global satellite venture.

WARNER BROS., INC.
4000 Warner Blvd.
Burbank, CA 91522

FAX COVER SHEET

DATE: 2/6/91 **TIME:** 5:40 p.m.

DELIVER TO: Tom Whitehead

RE:

FROM: Steven Koltai

TOTAL NUMBER OF PAGES: One **INCLUDING THIS PAGE.**

Dear Tom,

As I recall, you said Jones Day would be sending us signature copies of the Trust Agreement. It's been several weeks and I still have seen nothing. What's happening?

Thanks,

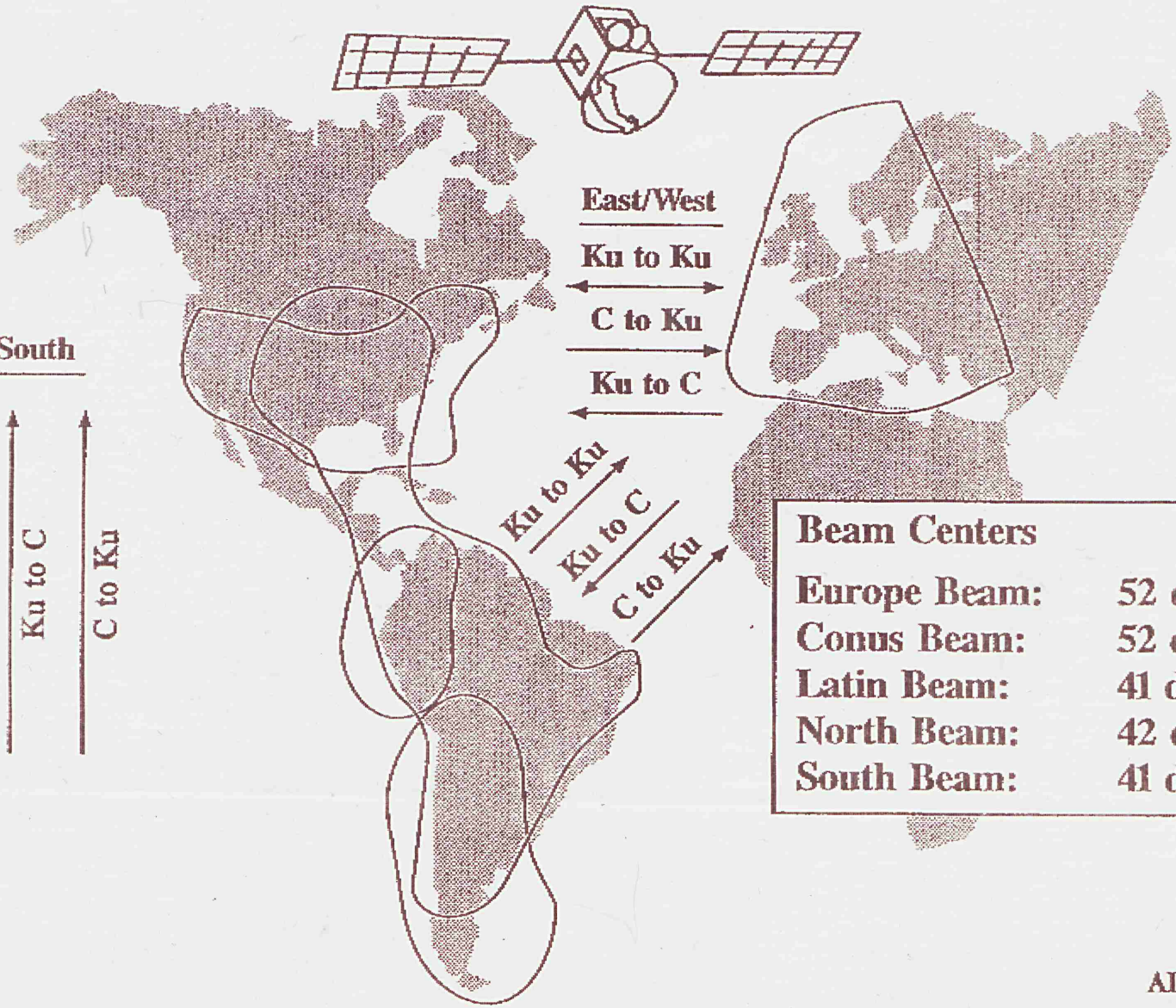
Steve

Steven

SRK/ls

TELEPHONE: (818) 954-6552 **FAX:** (818) 954-6665

PAS-2 COVERAGE

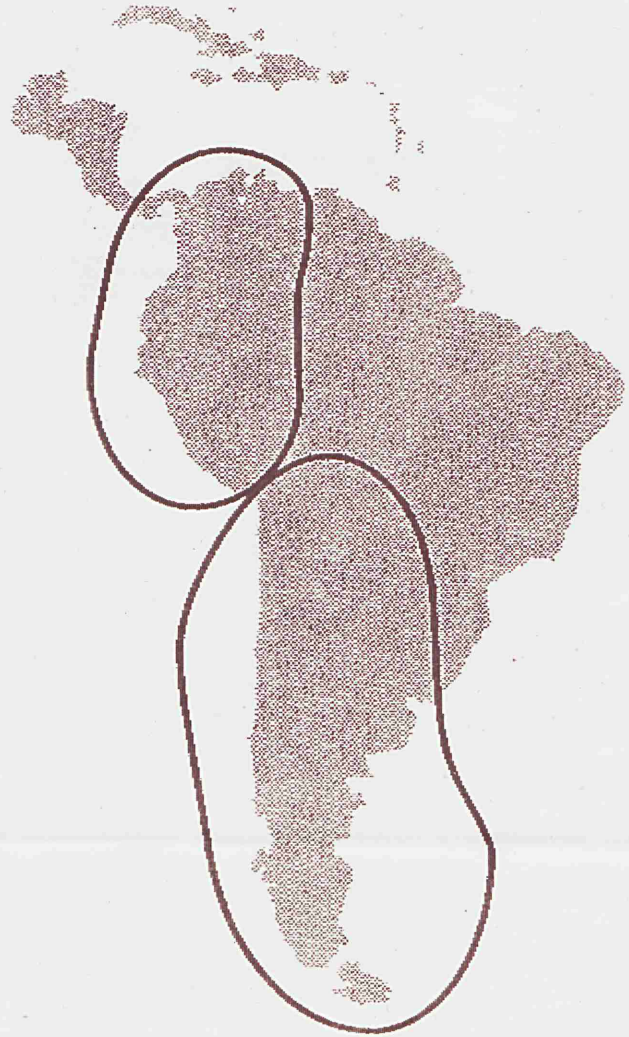


Beam Centers	
Europe Beam:	52 dBW
Conus Beam:	52 dBW
Latin Beam:	41 dBW
North Beam:	42 dBW
South Beam:	41 dBW

ALPHA LYRACOM

PAS-2 CONTOURS: SPOT BEAMS

C-Band -3dB Contour



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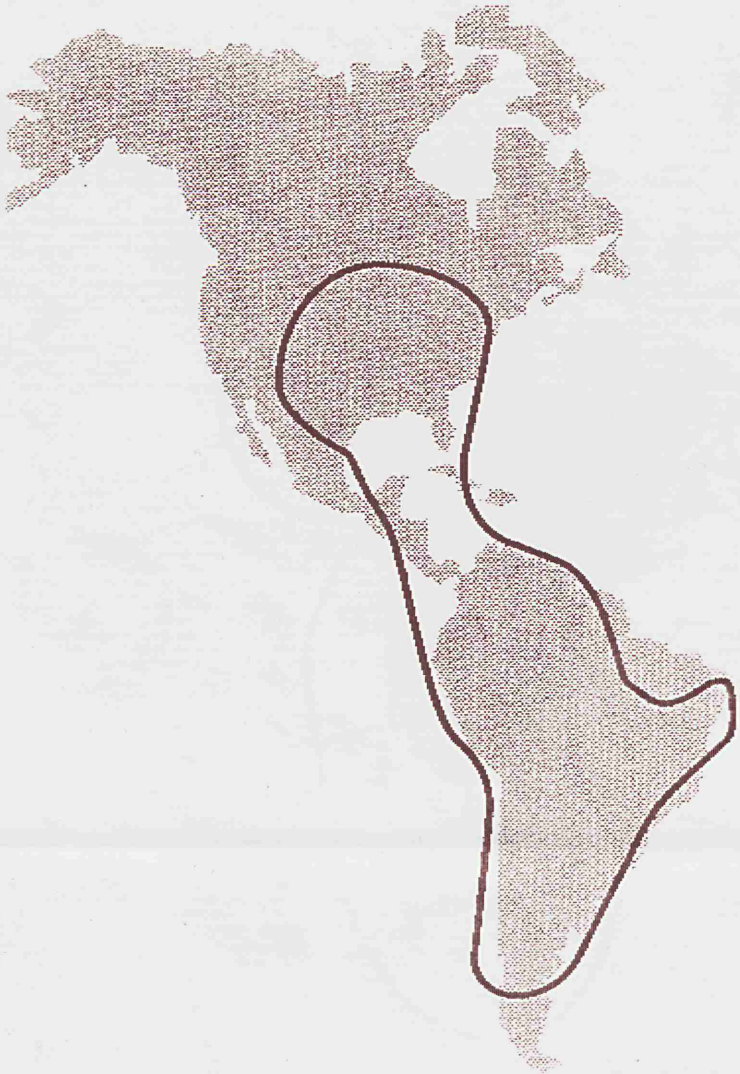
PAS-2 CONTOURS: LATIN BEAM

C-Band -5dB Contour



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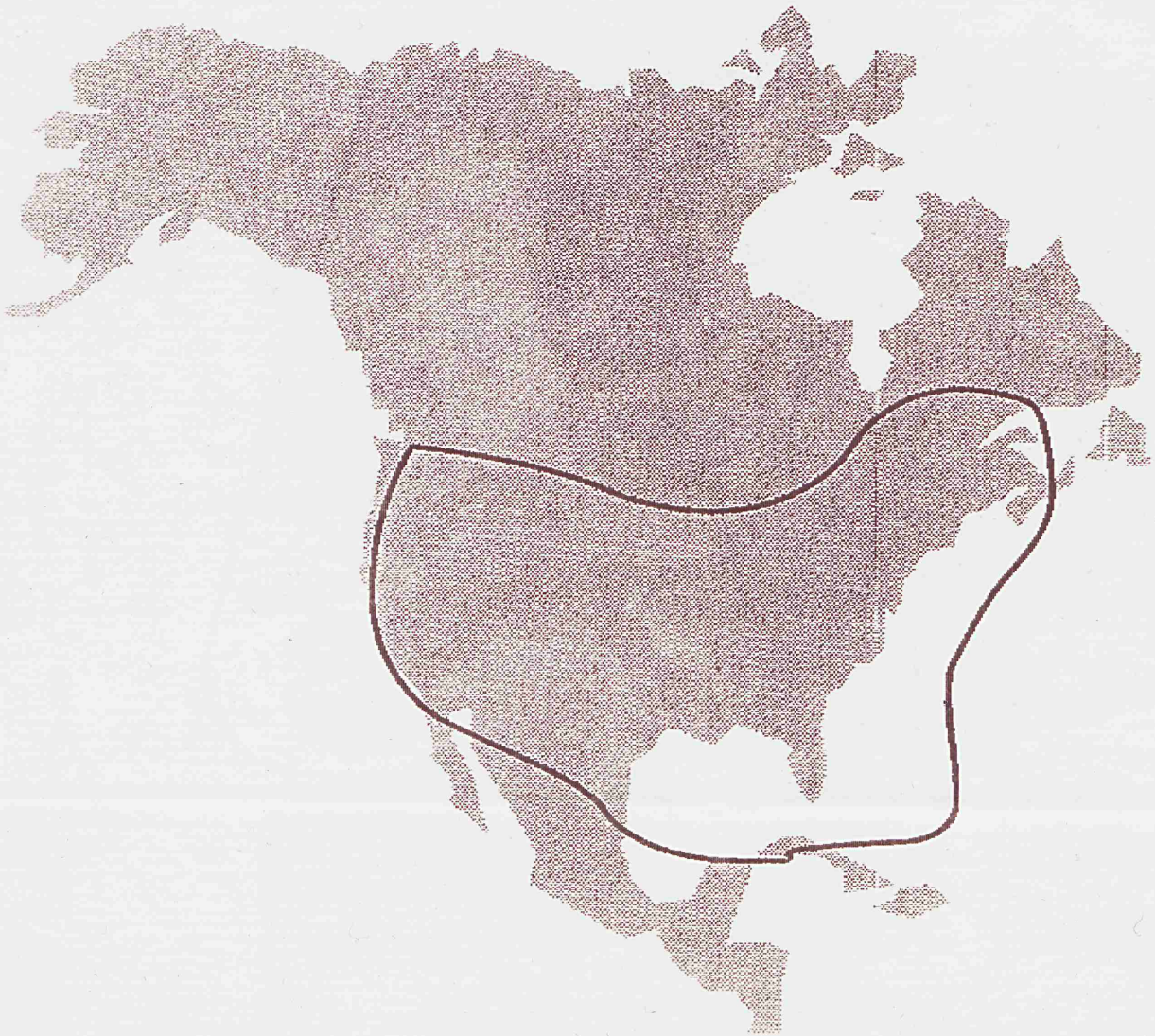
PAS-2 CONTOURS: CONUS BEAM

Ku-Band -3dB Contour



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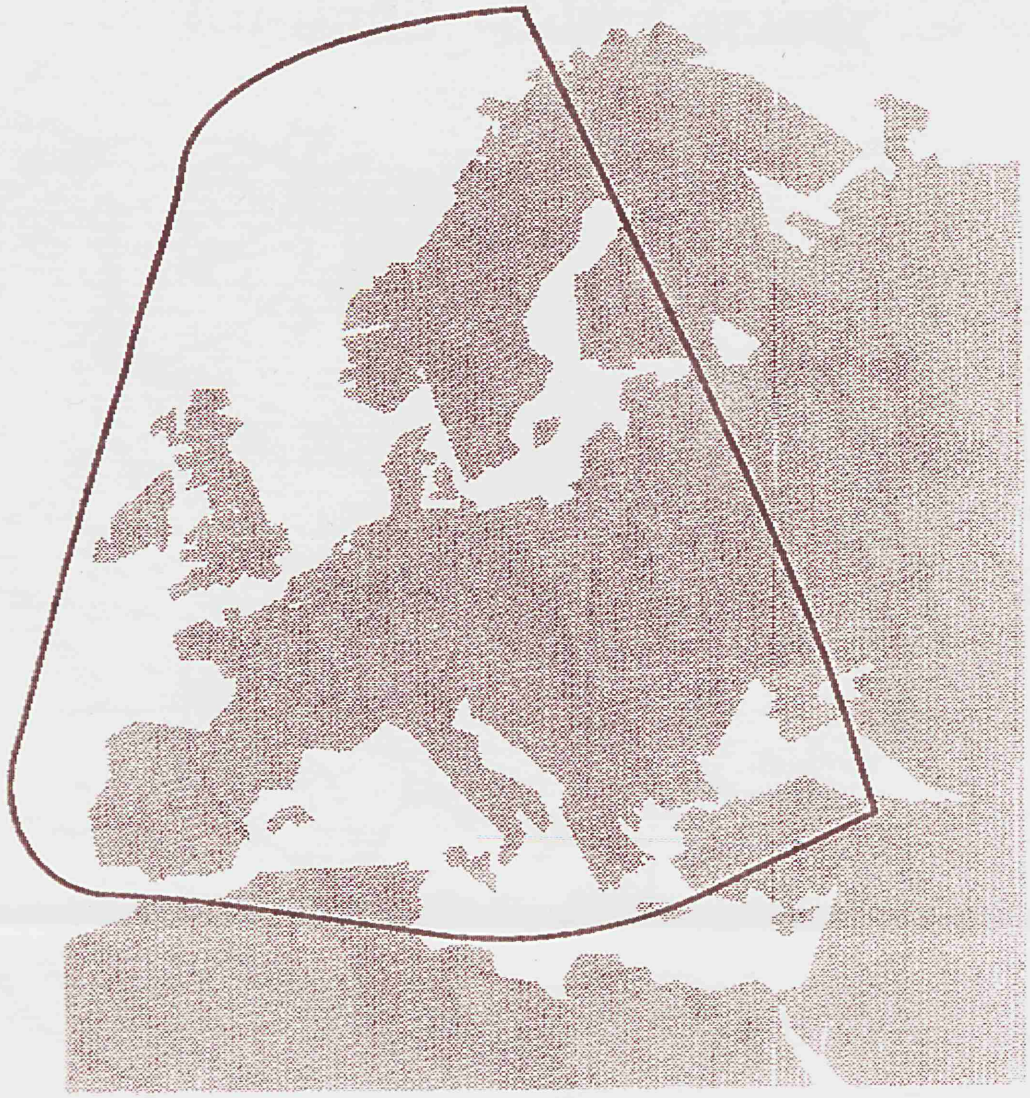
PAS-2 CONTOURS: EUROPE BEAM

Ku-Band -3dB Contour



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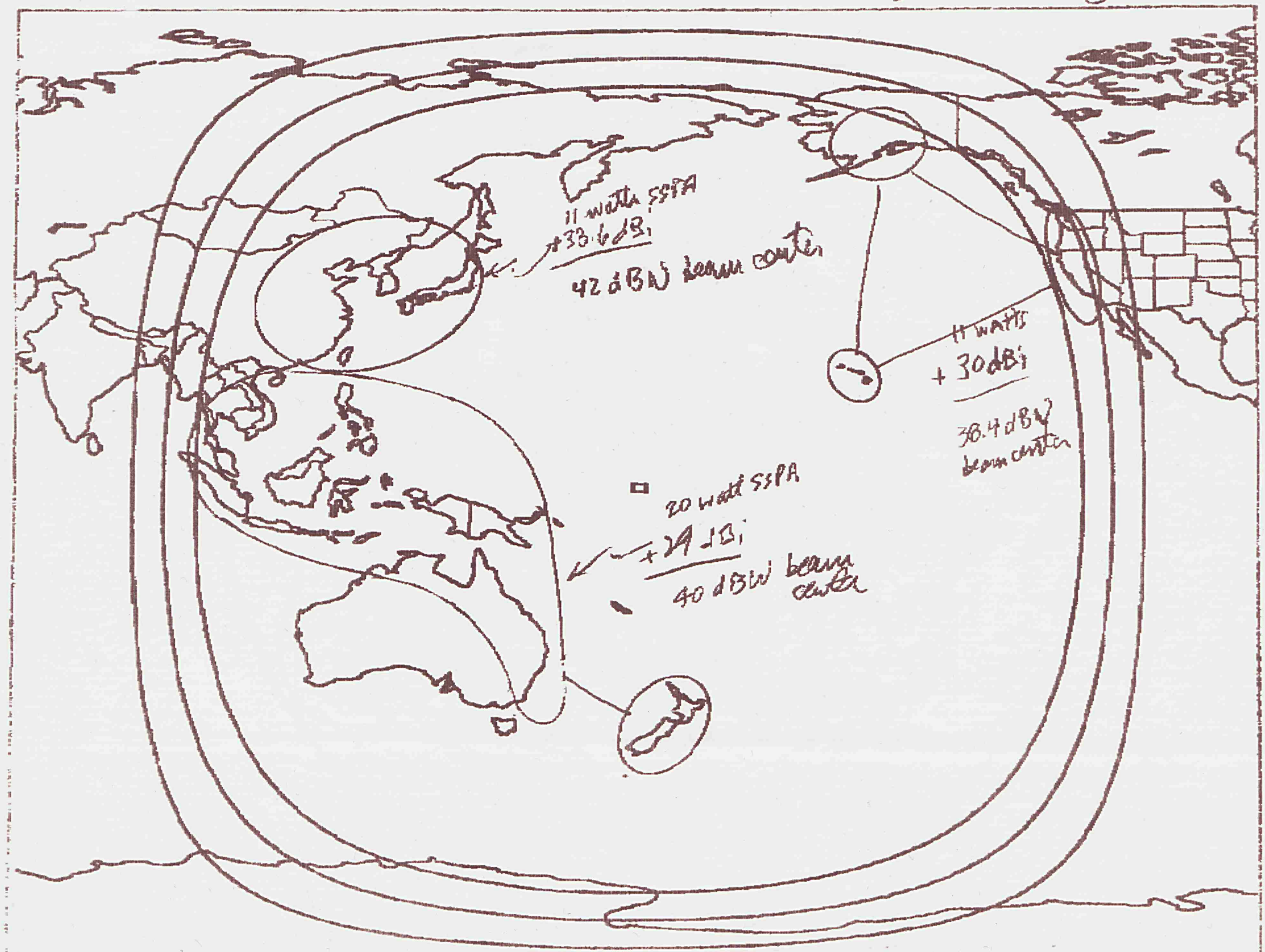
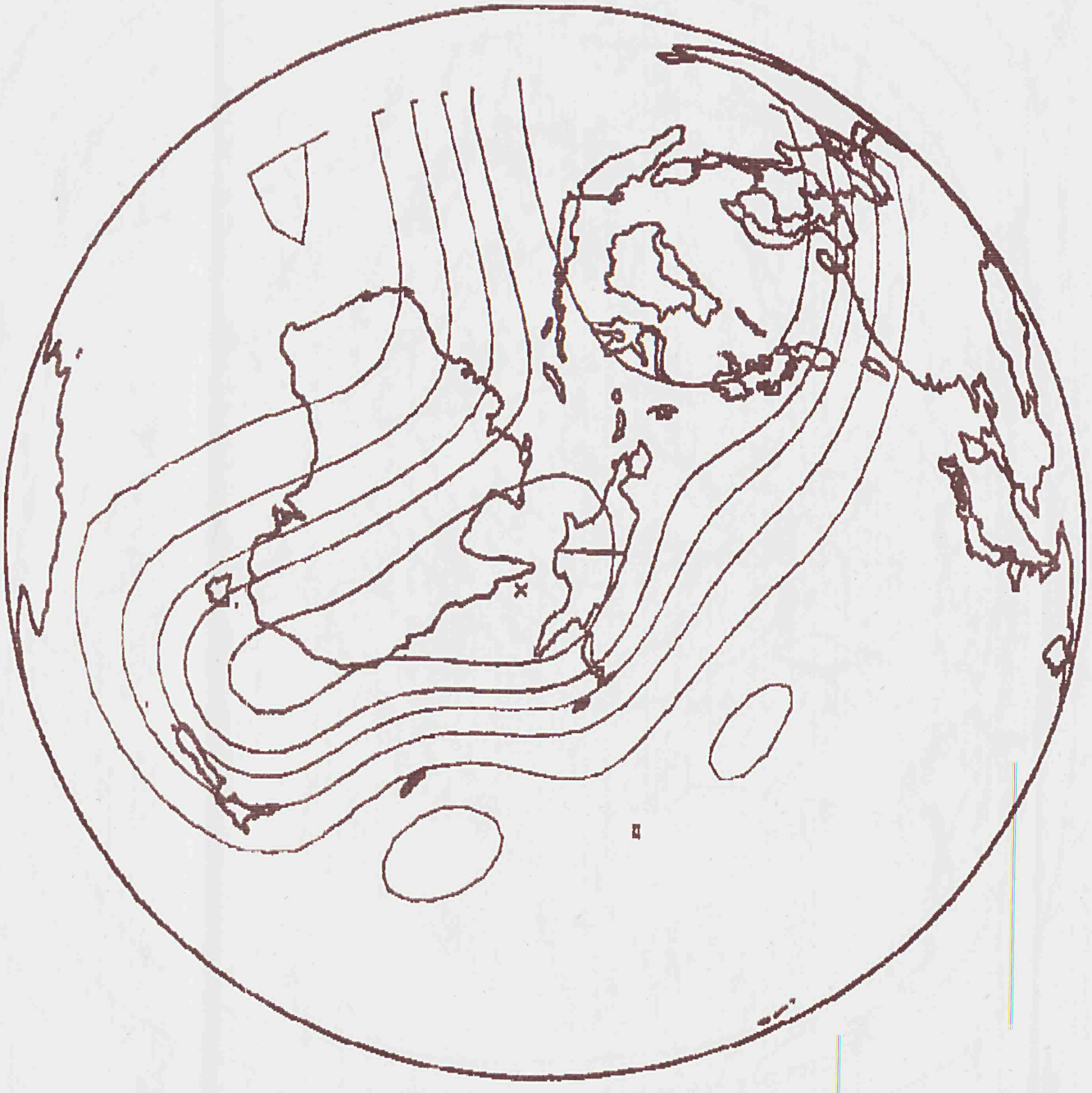
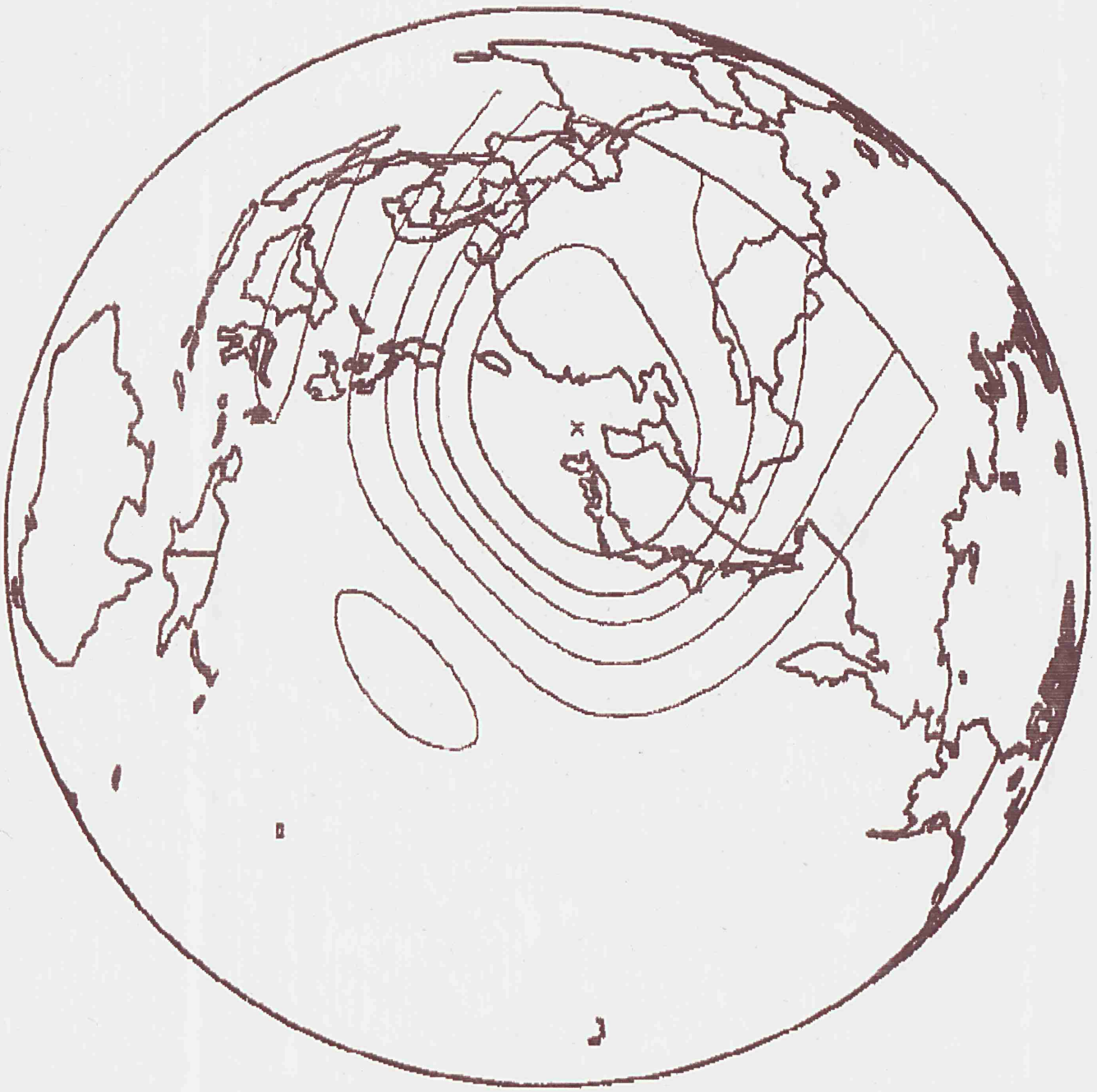
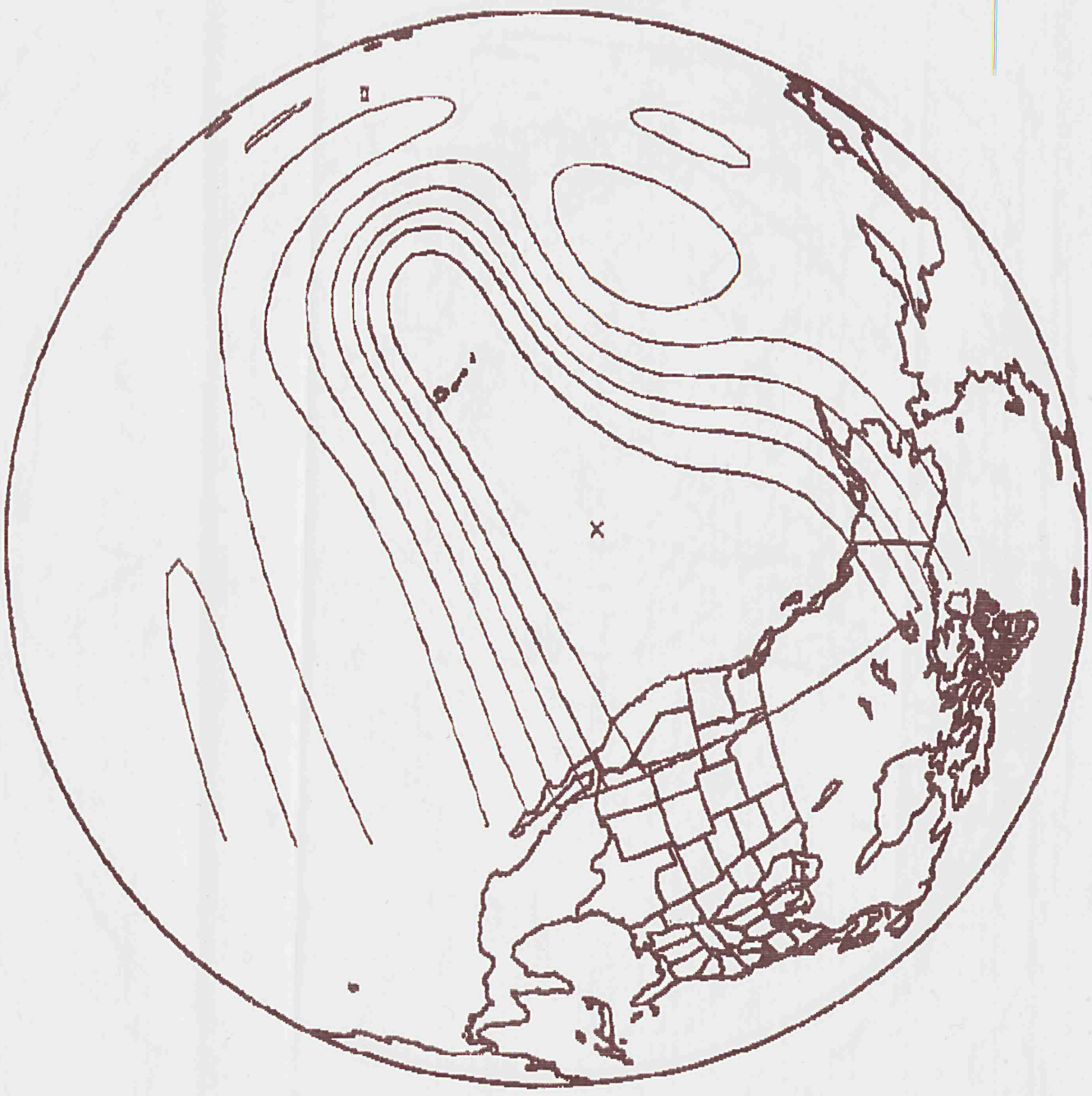
e- Band Coverage at 4GHz

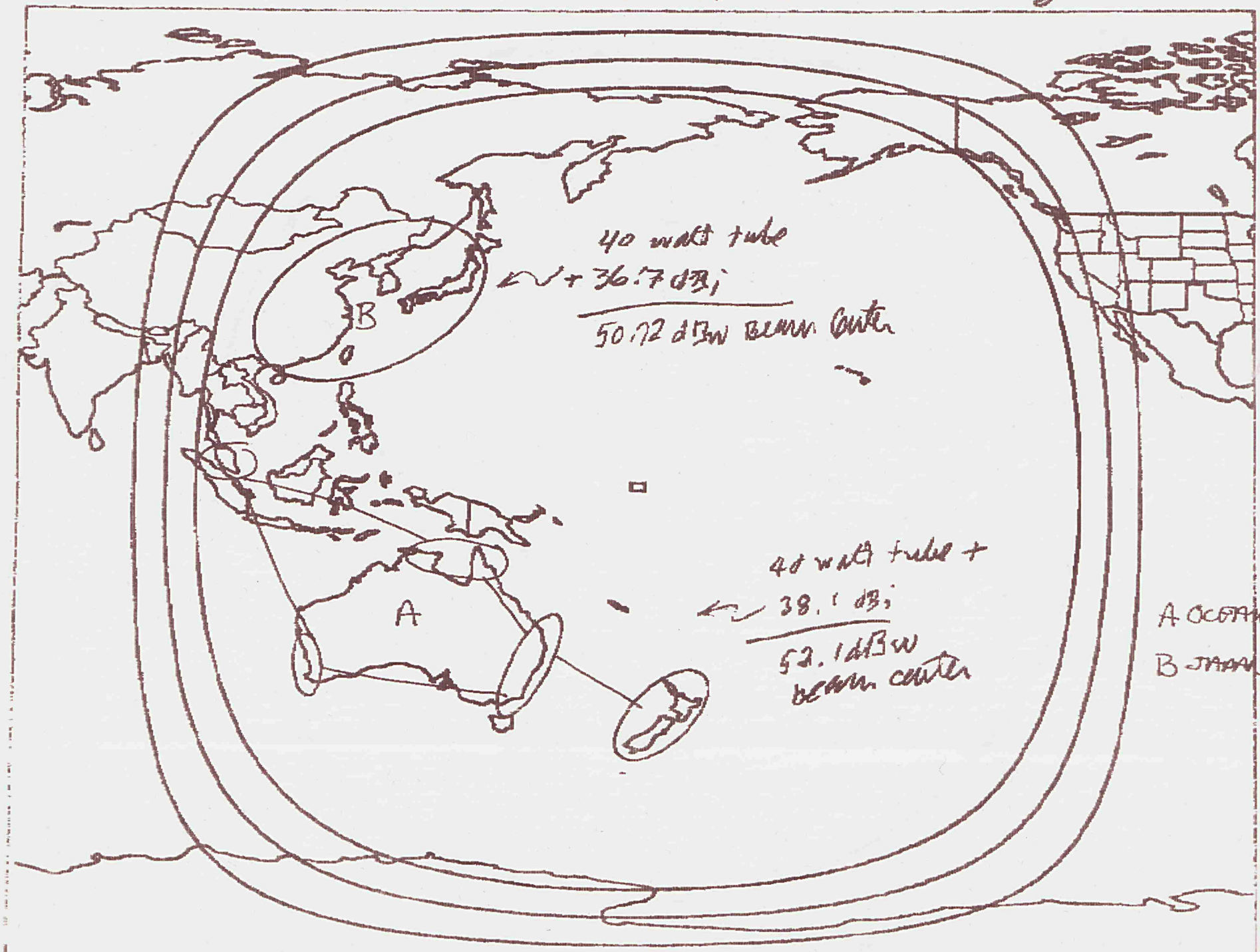




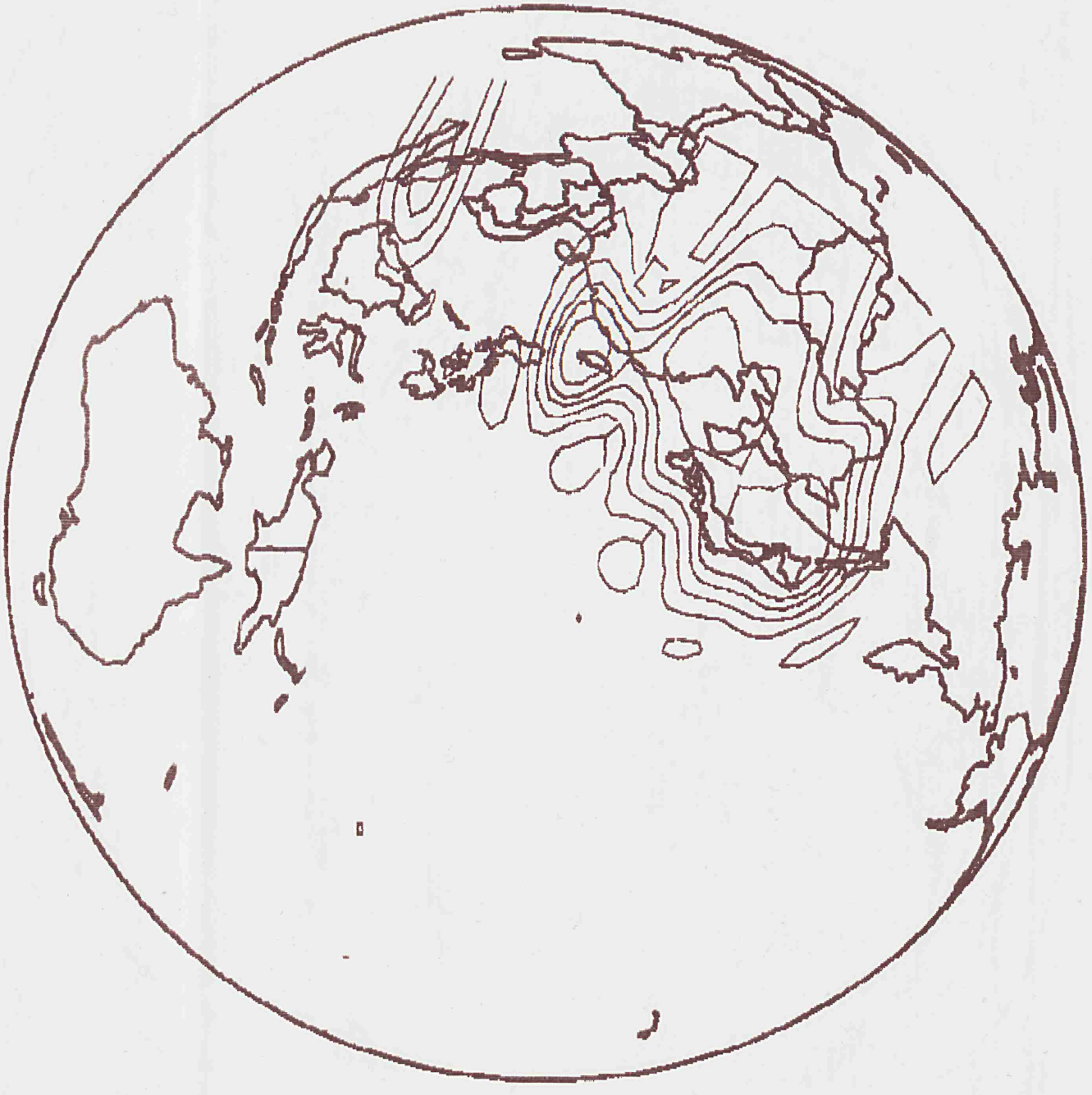




Ku Band Downtalk at 12.5 GHz

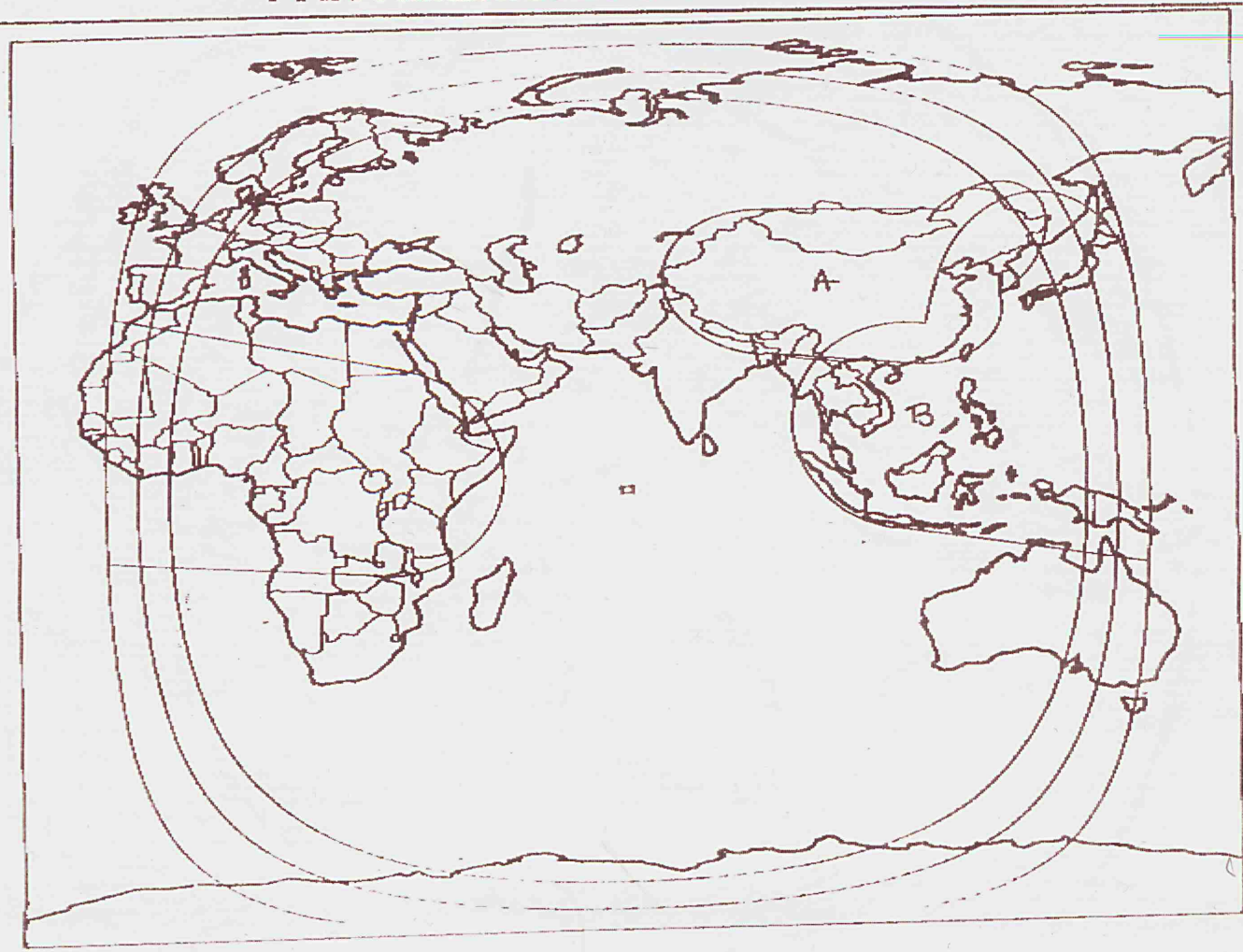


A OCEANIA 524
B JAPAN/CHINA
50.7°



ALPHA LYRACOM INDIAN OCEAN

~~PAN AMERICAN SATELLITE - 6~~



~~Figure A1B PAS 6~~ Indian Ocean C-Band Coverages

~~Rubin, Bednarek and Associates~~

Consulting ~~Telecommunications~~ Engineers

~~Washington, D.C.~~

FIRP

ALPHA LYRACOM INDIAN OCEAN

~~PAN AMERICAN SATELLITE 6~~

~~Figure A1A - PAS 6~~ Indian Ocean Ku-Band Coverages

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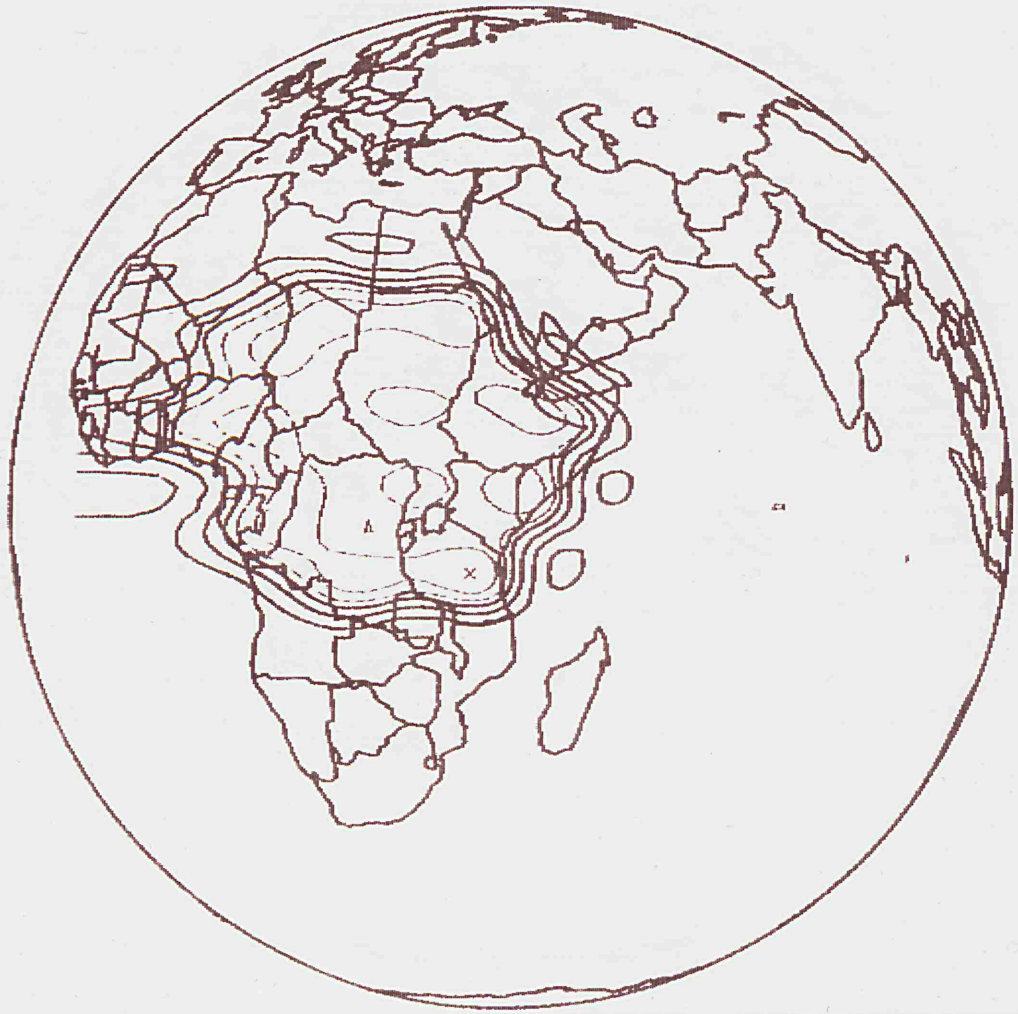
Consulting Telecommunications Engineers
Washington, D.C.

PAN AMERICAN SATELLITE - 6



Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A3 - Central African Downlink Beam

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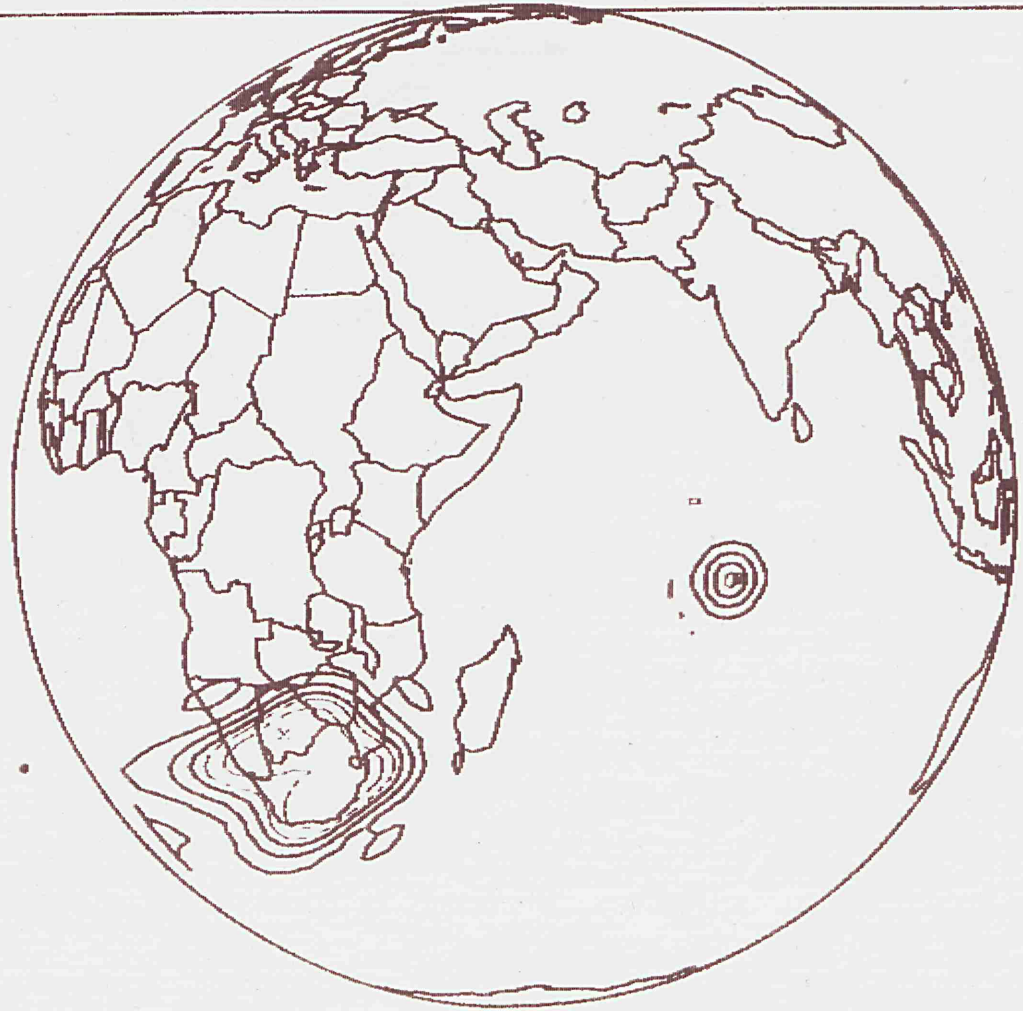
Consulting Telecommunications Engineers
Washington, D.C.

PAN AMERICAN SATELLITE - 6



Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A4 - South African Downlink Spot Beam

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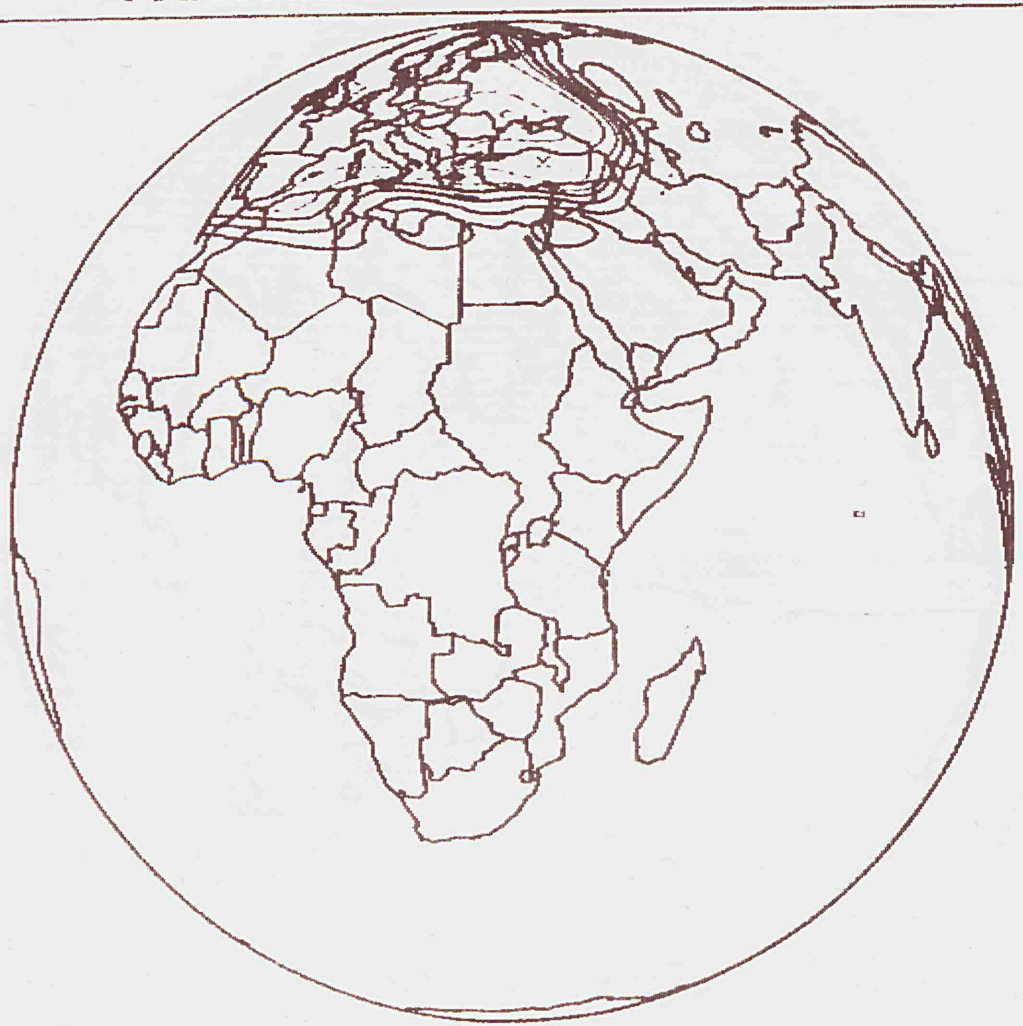
PAN AMERICAN SATELLITE - 6



Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A2 - Europe/USSR Downlink Spot Beam

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Consulting Telecommunications Engineers
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PAN AMERICAN SATELLITE - 6

Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A5 - Middle Eastern Downlink Spot Beam

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PAN AMERICAN SATELLITE - 6

Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A6 - Central Asia Downlink Spot Beam

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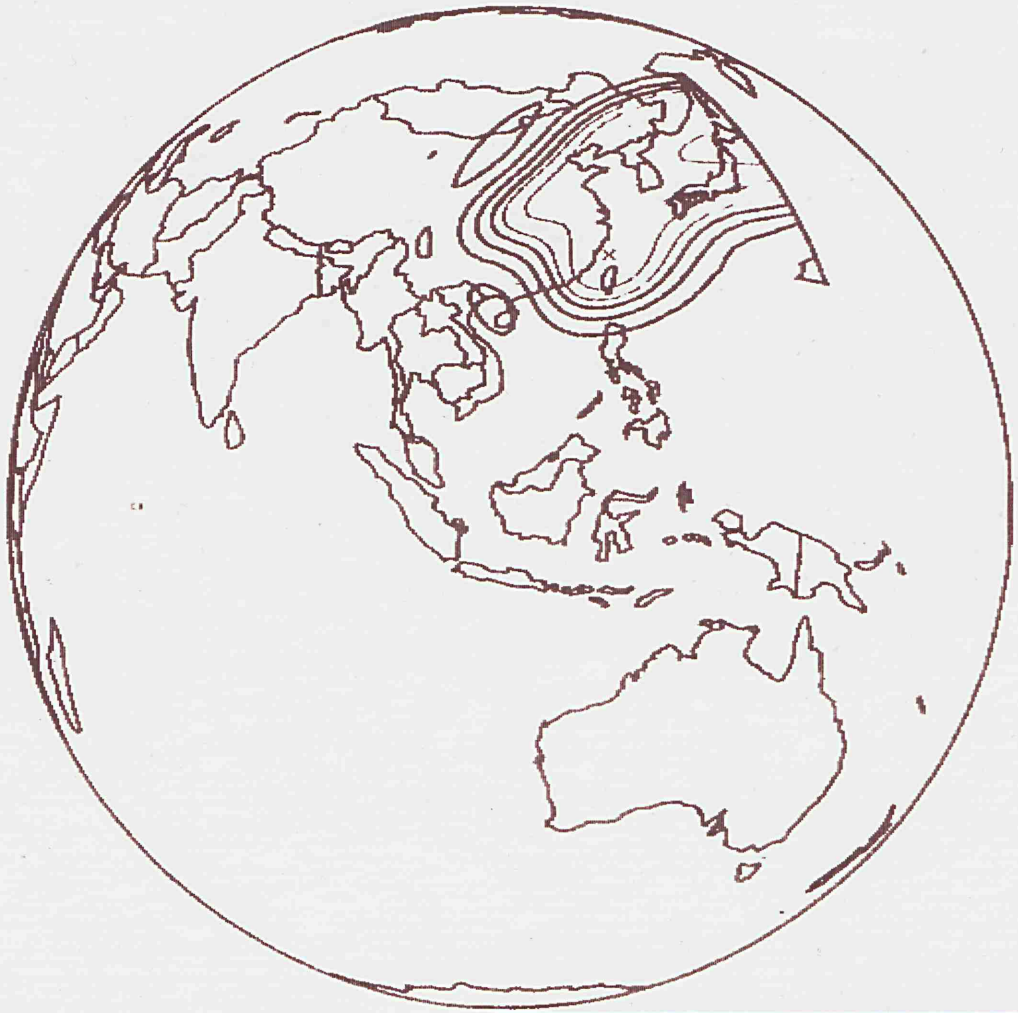
PAN AMERICAN SATELLITE - 6



Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A7 - Japan/China/Korea Downlink Spot Beam

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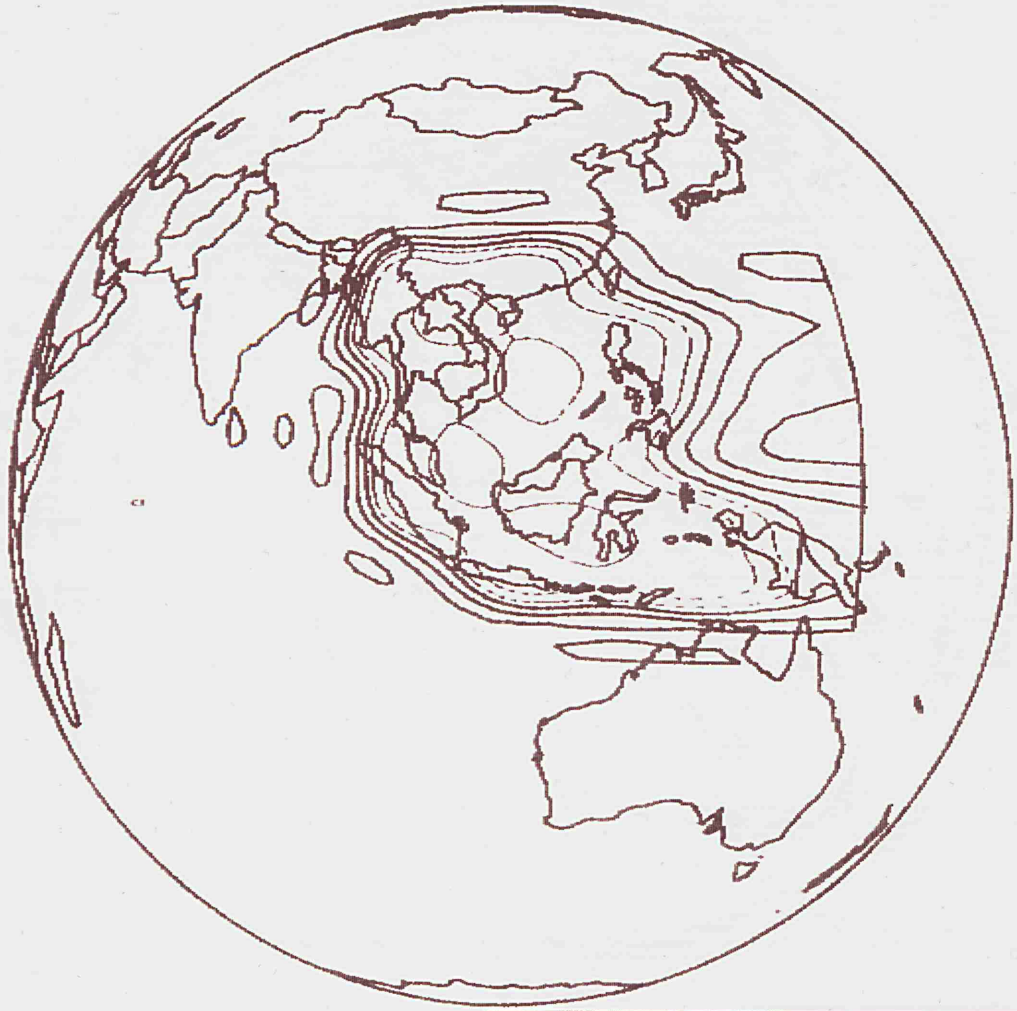
PAN AMERICAN SATELLITE - 6



Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A8 - Malay Downlink Beam

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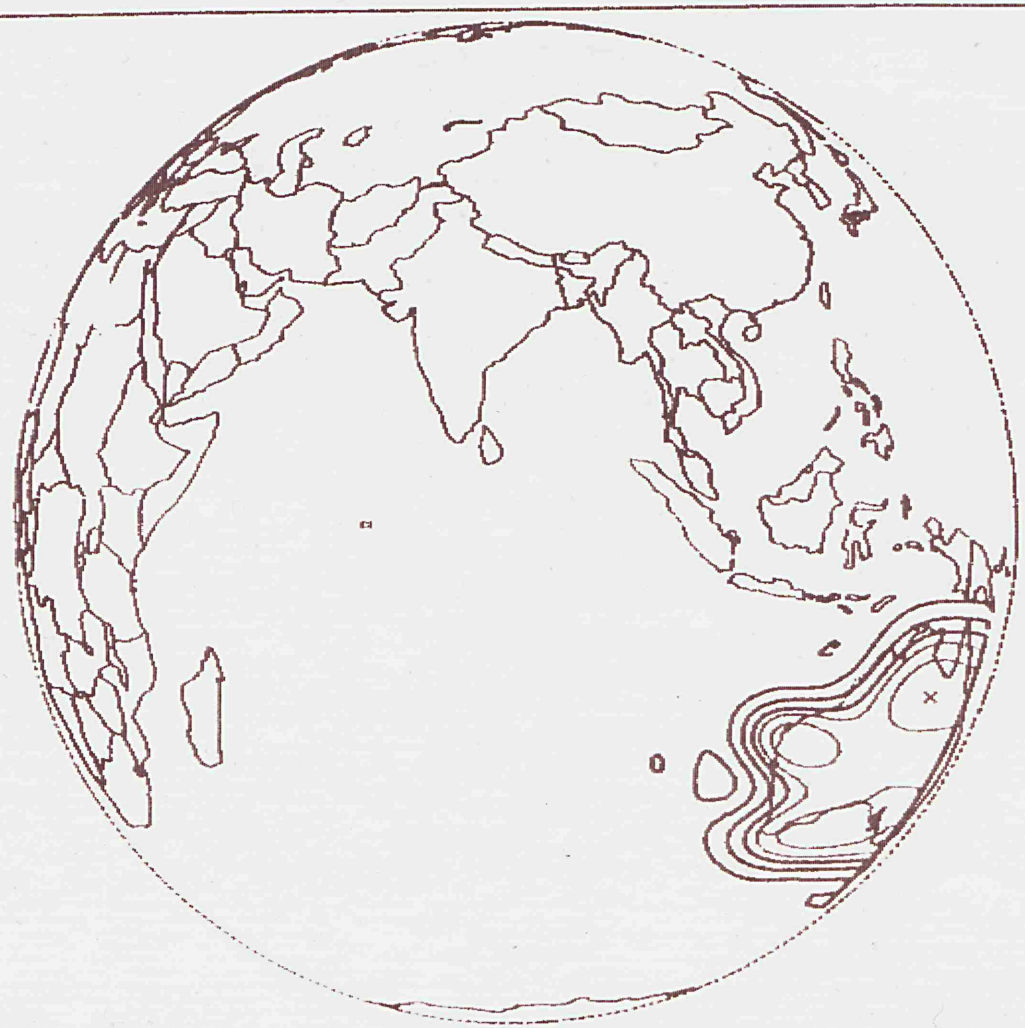
PAN AMERICAN SATELLITE - 6



Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A9 - Australian Downlink Beam

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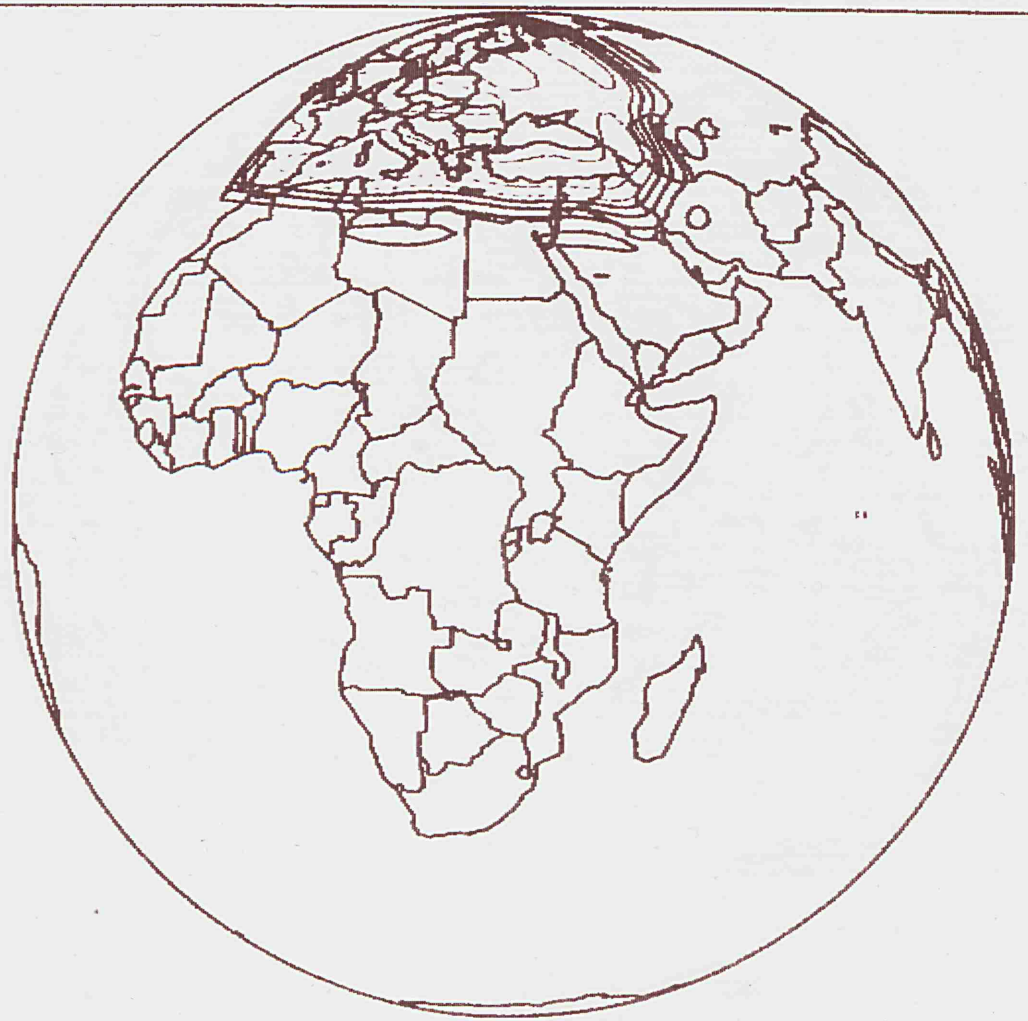
PAN AMERICAN SATELLITE - 6



Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A10 - Europe/USSR Uplink Beam

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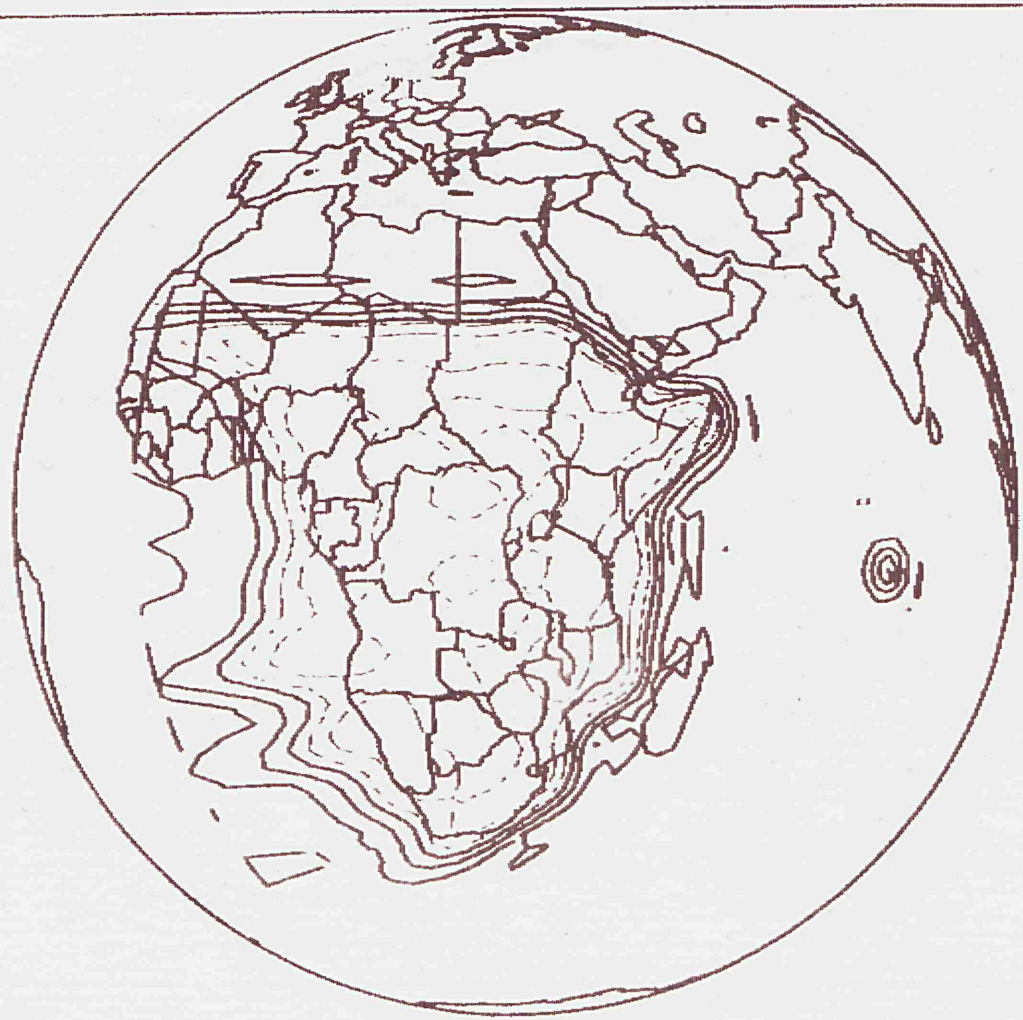
PAN AMERICAN SATELLITE - 6



Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A11 - Africa Uplink Beam

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Consulting Telecommunications Engineers
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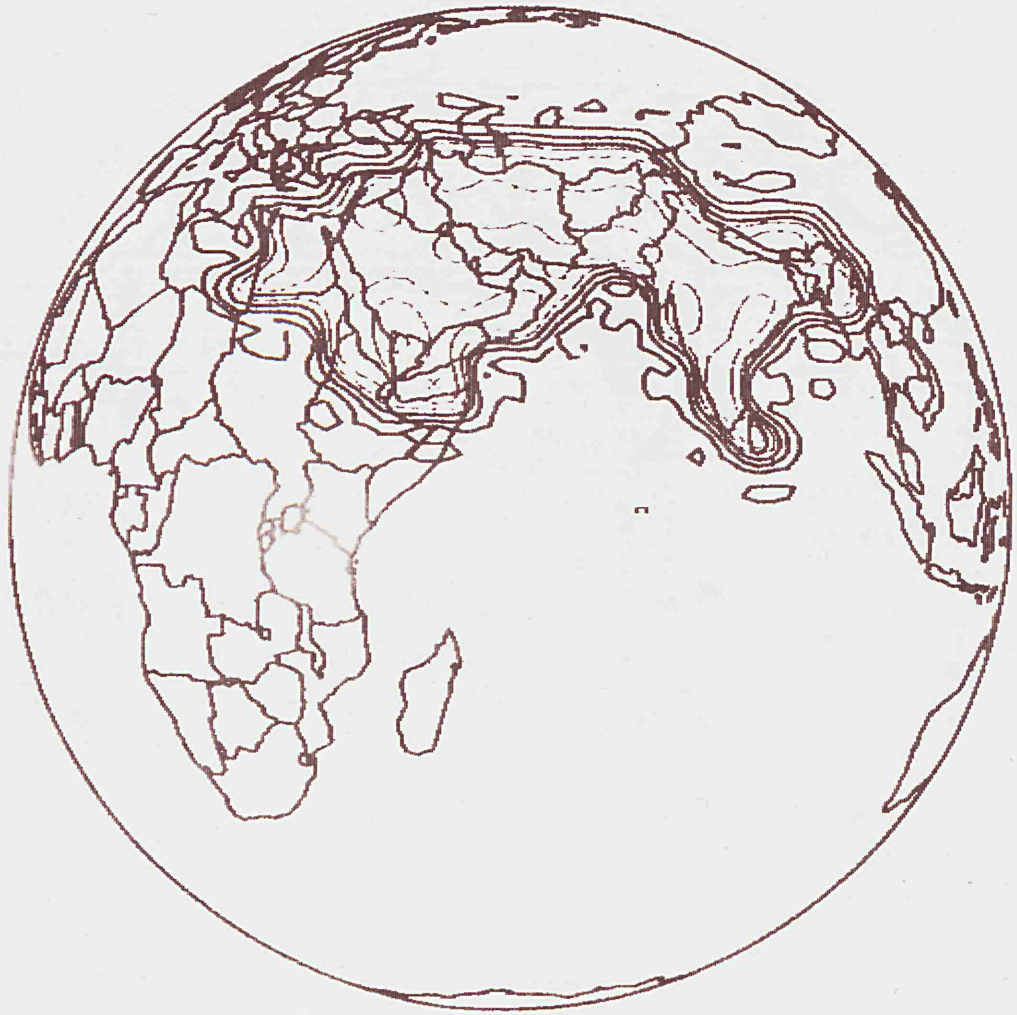
PAN AMERICAN SATELLITE - 6



Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A12 - Central Asian Uplink Beam

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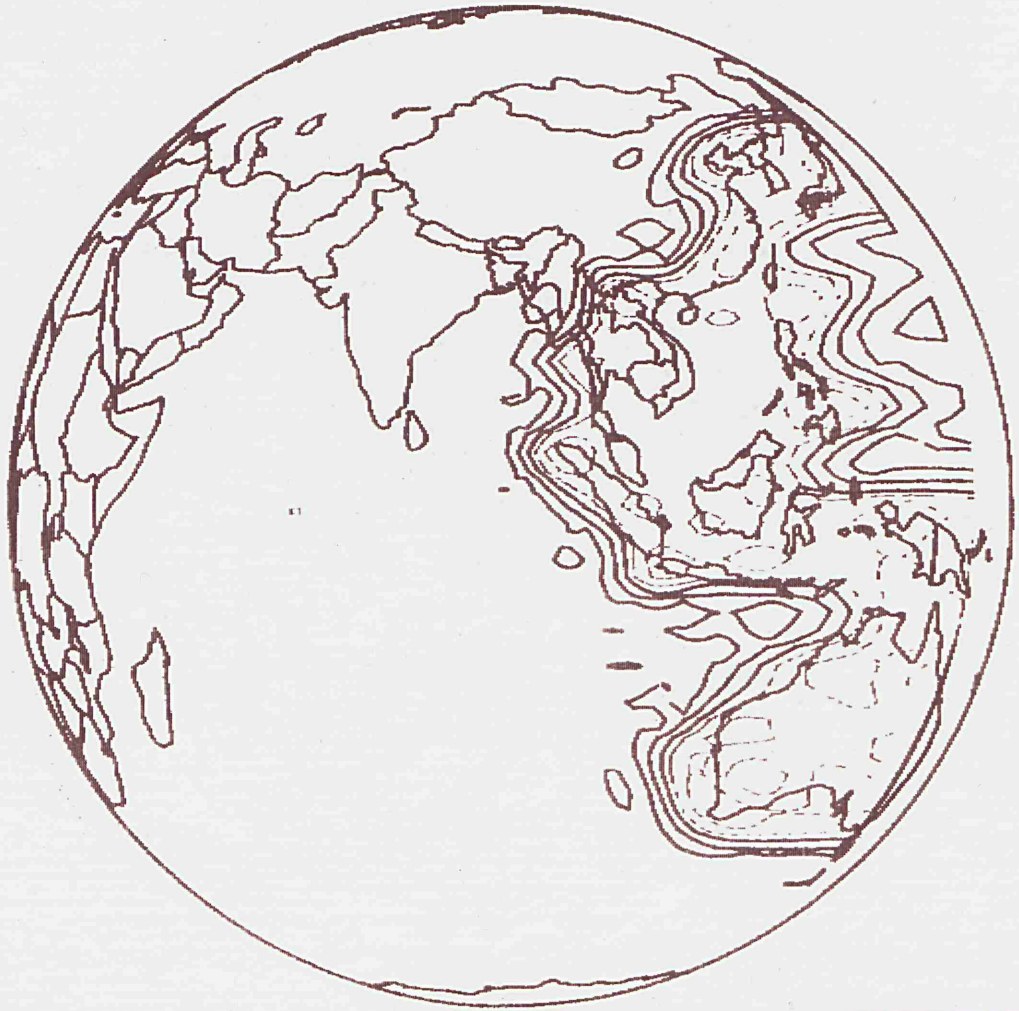
PAN AMERICAN SATELLITE - 6



Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A13 - Far Eastern Uplink Beam

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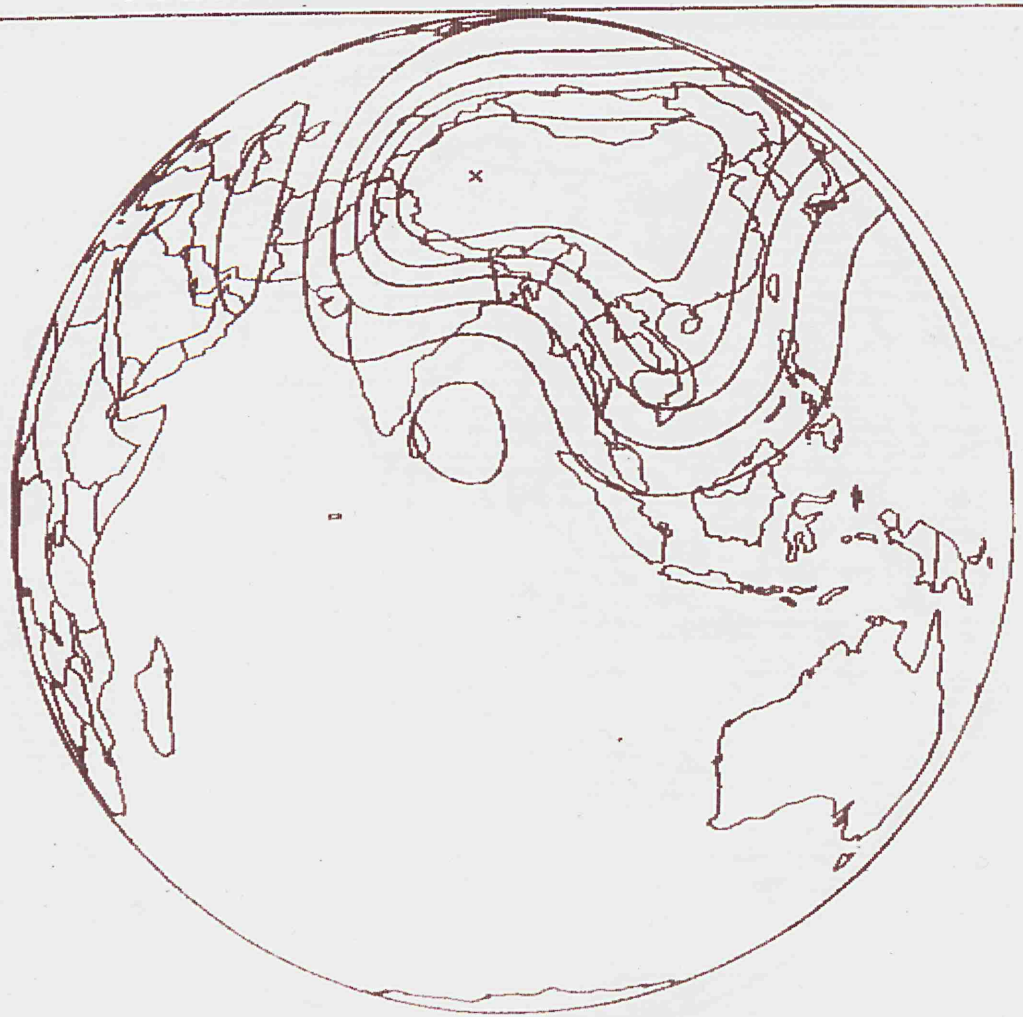
Consulting Telecommunications Engineers
Washington, D.C.

PAN AMERICAN SATELLITE - 6



Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A14 - China C-Band Downlink Beam

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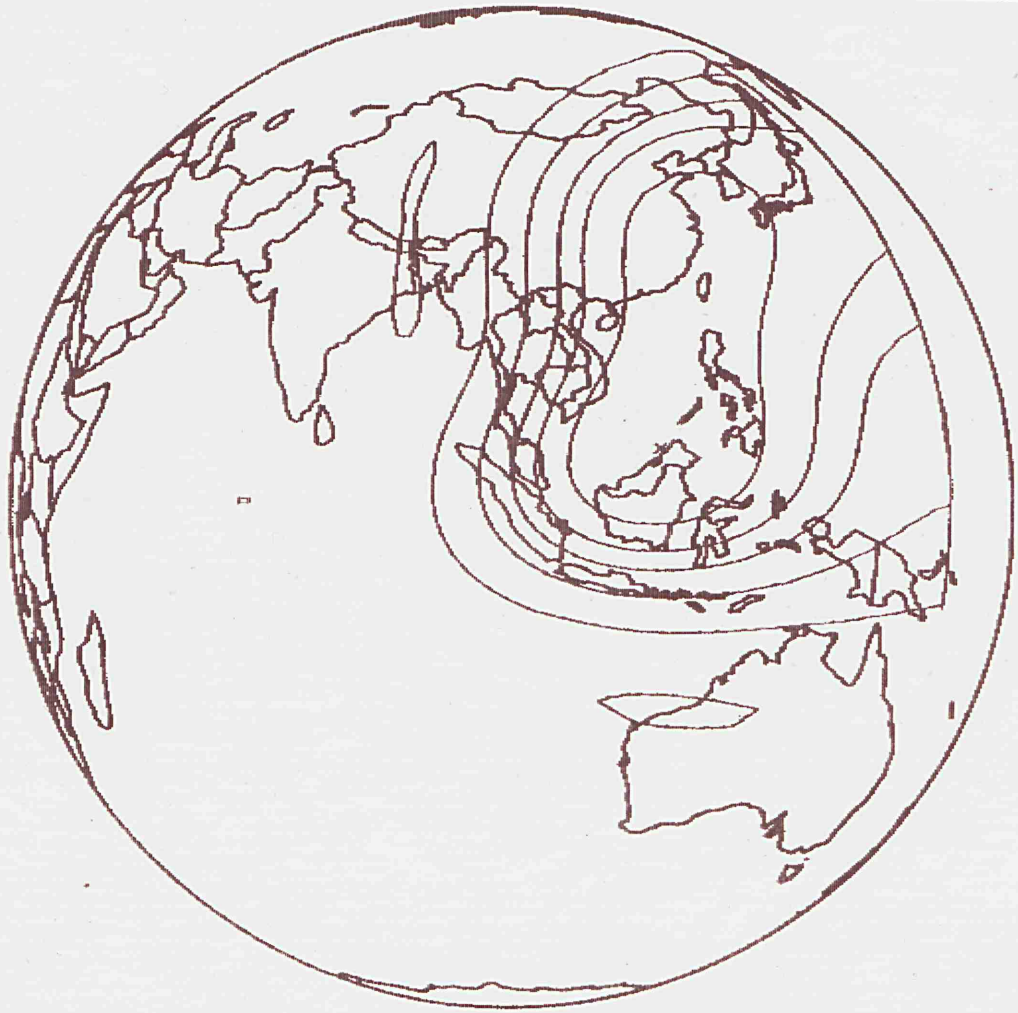
Consulting Telecommunications Engineers
Washington, D.C.

PAN AMERICAN SATELLITE - 6



Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A15 - East Asia C-Band Downlink Beam

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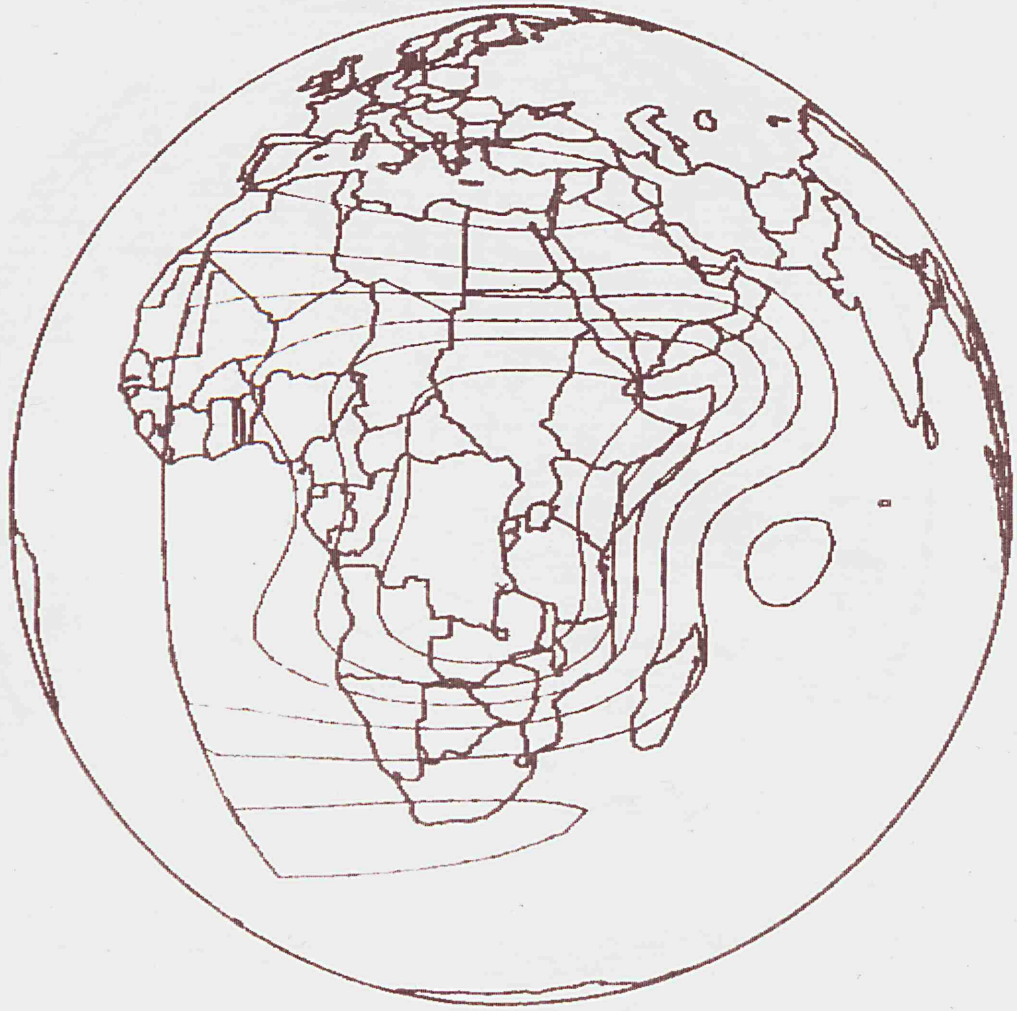
Consulting Telecommunications Engineers
Washington, D.C.

PAN AMERICAN SATELLITE - 6



Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A16 - Central Africa C-Band Downlink Beam

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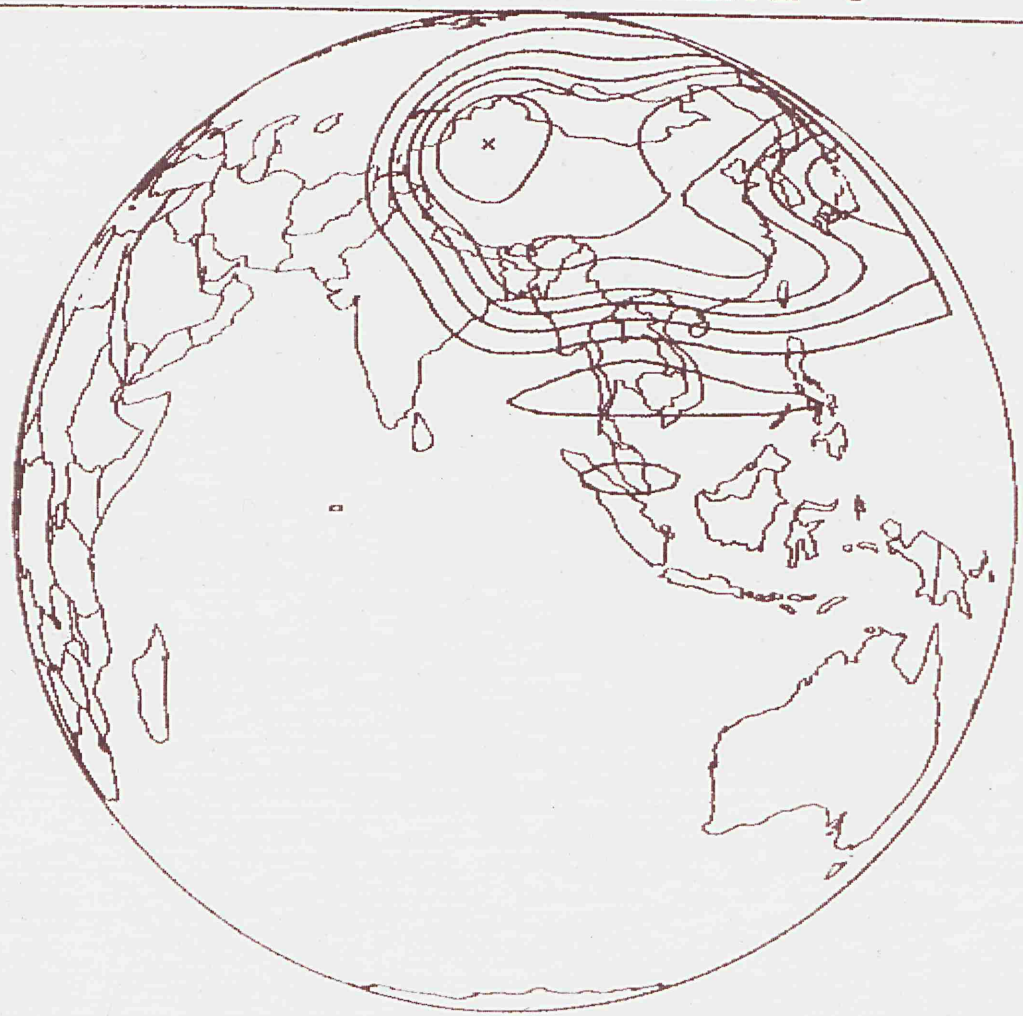
Consulting Telecommunications Engineers
Washington, D.C.

PAN AMERICAN SATELLITE - 6



Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A17 - China C-Band Uplink Beam

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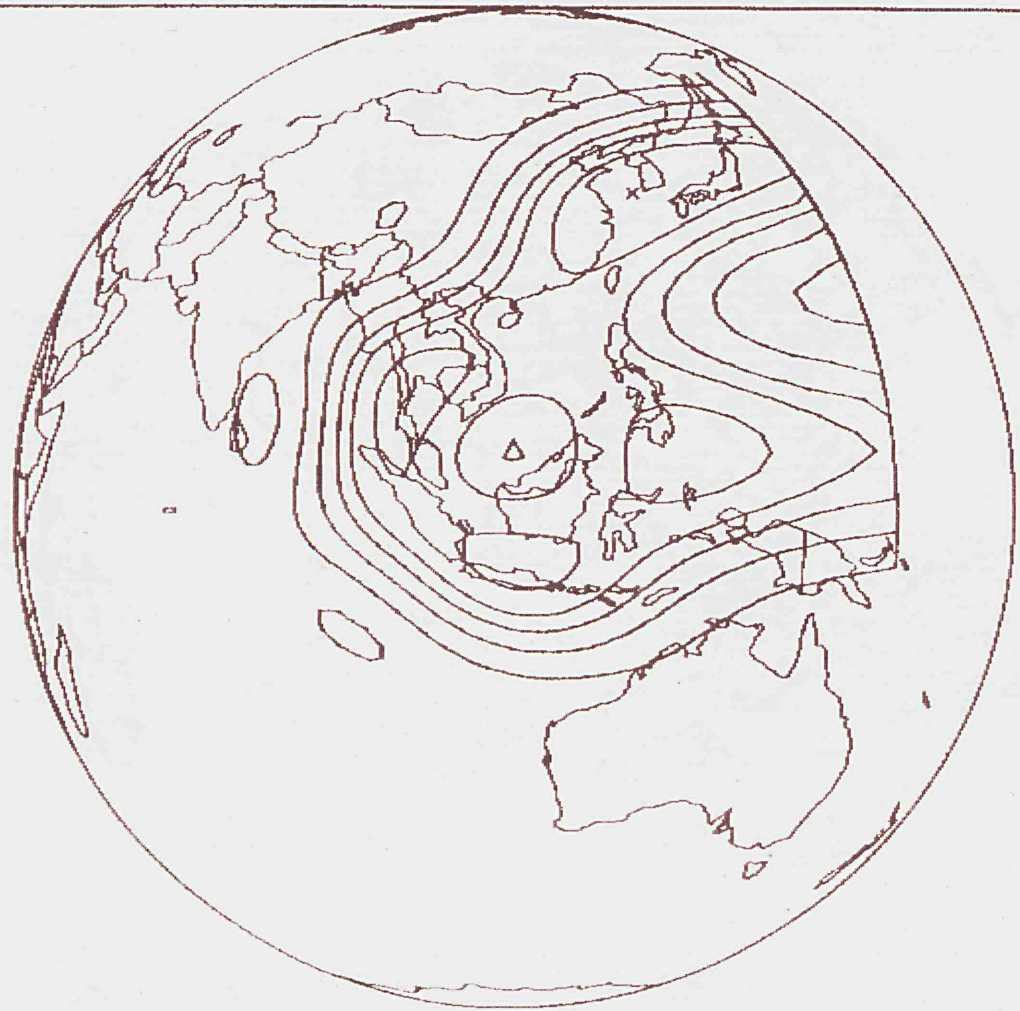
Consulting Telecommunications Engineers
Washington, D.C.

PAN AMERICAN SATELLITE - 6



Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A18 - East Asia C-Band Uplink Beam

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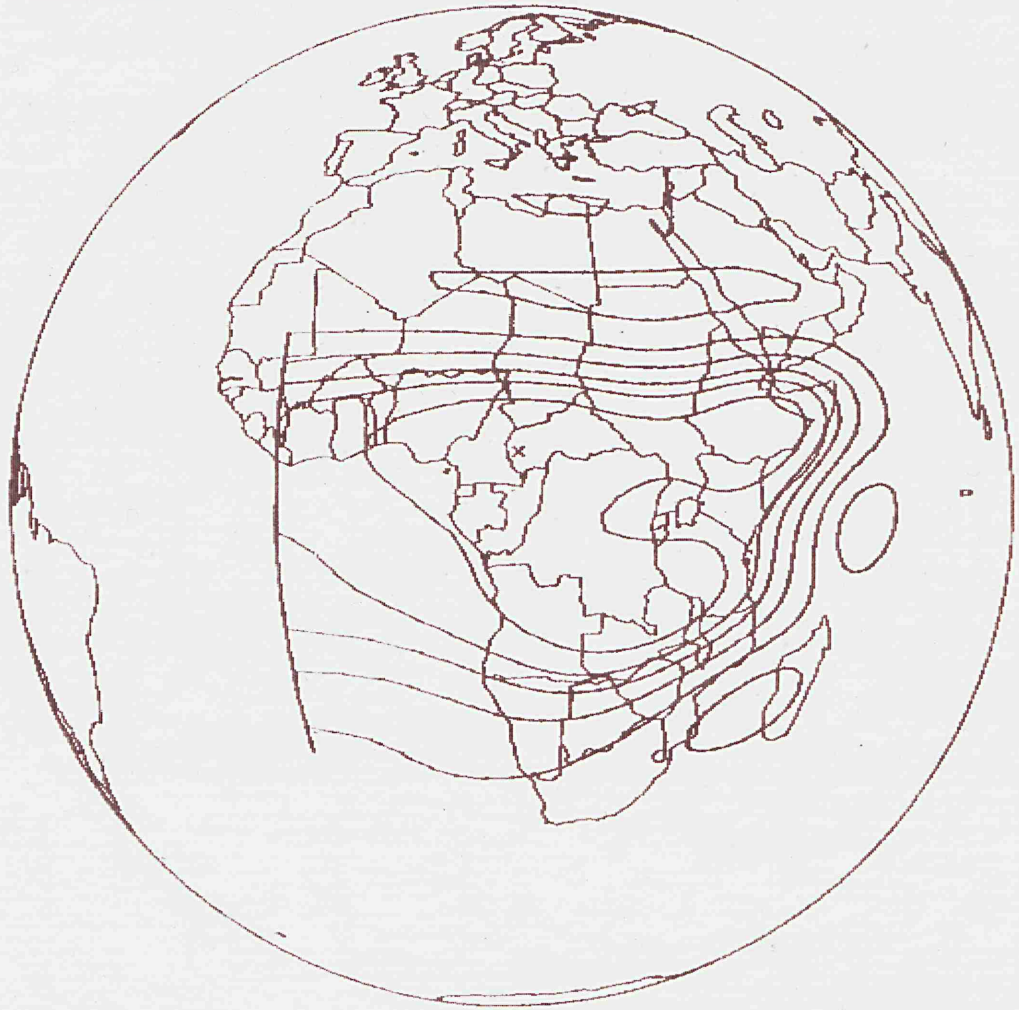
Consulting Telecommunications Engineers
Washington, D.C.

PAN AMERICAN SATELLITE - 6



Contours shown are -2, -4, -6, -10 and -20dBi.

Figure A19 - Central Africa C-Band Uplink Beam

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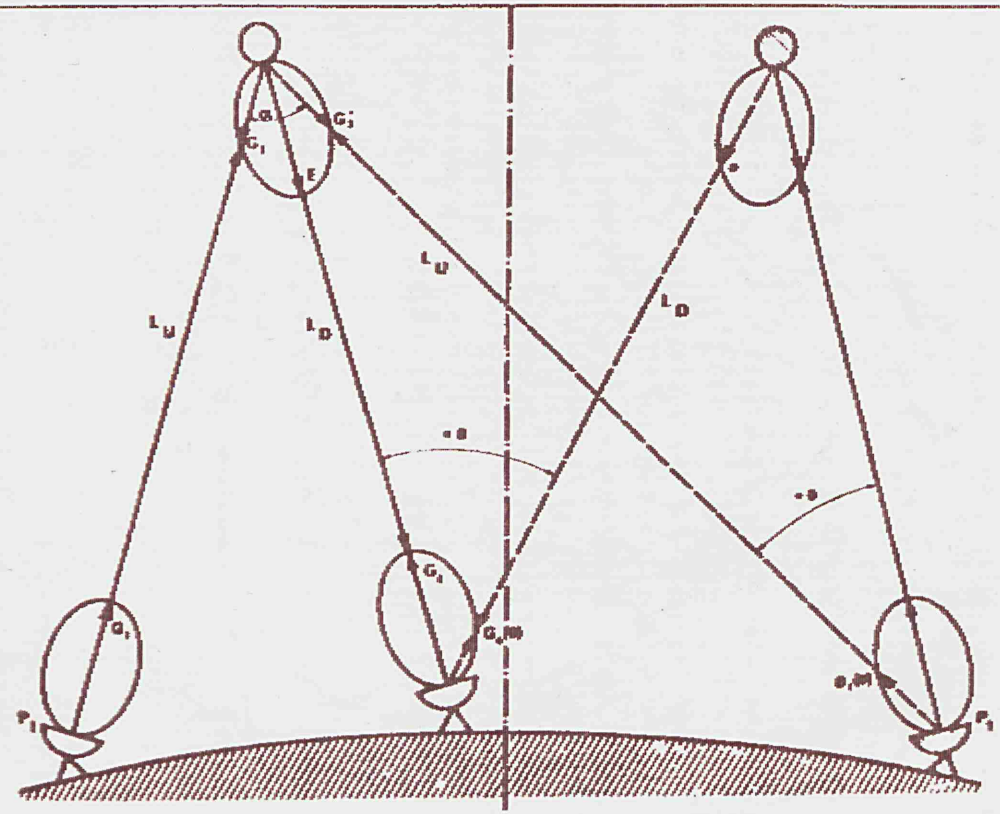
Consulting Telecommunications Engineers
Washington, D.C.

PAN AMERICAN SATELLITE - 6



Interfered-with network

Interfering network

$G_1 - G'_2 = \Delta G_2(\alpha)$

Wanted signal paths

Interfering signal paths

Figure A20 - Interference Geometry

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Consulting Telecommunications Engineers
Washington, D.C.