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FEDERAL COMMUNICATIONS COMMISSION

FCC REMITTANCE ADVICE

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PAGE NO. 1 OF 1

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88-SAT-P/LA-97

(Read instructions carefully BEFORE proceeding.)

PAYOR INFORMATION

(1) FCC ACCOUNT NUMBER: 0 0 6 1 3 2 4 6 9 1

Did you have a number prior to this? Enter it.

(2) TOTAL AMOUNT PAID (dollars and cents): $ 87,515.

(3) PAYOR NAME (If paying by credit card, enter name exactly as it appears on your card)

CAI Wireless Systems, Inc.

COPY

(4) STREET ADDRESS LINE NO. 1
c/o Brian D. Robinson / Arter & Hadden

(5) STREET ADDRESS LINE NO. 2
1801 K Street, N. W., Suite 400K

(6) CITY: Washington

(7) STATE: DC

(8) ZIP CODE: 20006

(9) DAYTIME TELEPHONE NUMBER (Include area code)
202 - 775-7126

(10) COUNTRY CODE (if not U.S.A.)

ITEM #1 INFORMATION

(11A) NAME OF APPLICANT, LICENSEE, REGULATEE, OR DEBTOR
CAI Data Systems, Inc.

FCC USE ONLY

(12A) FCC CALL SIGN/OTHER ID	(13A) ZIP CODE	(14A) PAYMENT TYPE CODE	(15A) QUANTITY	(16A) FEE DUE FOR PAYMENT TYPE CODE IN BLOCK 14
	12211	B B Y	1	$ 2,470.00

(17A) FCC CODE 1

(18A) FCC CODE 2

(19A) ADDRESS LINE NO. 1	(20A) ADDRESS LINE NO. 2)	(21A) CITY/STATE OR COUNTRY CODE
18 Corporate Woods Boulevard	Third Floor	Albany, NY

ITEM #2 INFORMATION

(11B) NAME OF APPLICANT, LICENSEE, REGULATEE, OR DEBTOR
CAI Data Systems, Inc.

FCC USE ONLY

(12B) FCC CALL SIGN/OTHER ID	(13B) ZIP CODE	(14B) PAYMENT TYPE CODE	(15B) QUANTITY	(16B) FEE DUE FOR PAYMENT TYPE CODE IN BLOCK 14
	12211	B N Y	1	$ 85,045.00

(17B) FCC CODE 1

(18B) FCC CODE 2

(19B) ADDRESS LINE NO. 1	(20B) ADDRESS LINE NO. 2	(21B) CITY/STATE OR COUNTRY CODE
18 Corporate Woods Boulevard	Third Floor	Albany, NY

CREDIT CARD PAYMENT INFORMATION

(22) MASTERCARD/VISA ACCOUNT NUMBER:

☐ Mastercard

☐ Visa

EXPIRATION DATE: Month Year

(23) **I hereby authorize the FCC to charge my VISA or Mastercard for the service(s)/authorization(s) herein described.**

AUTHORIZED SIGNATURE

DATE

See public burden estimate on reverse.

FCC FORM 159
April 1994

ARTER & HADDEN
ATTORNEYS AT LAW
founded 1843

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Washington, D.C. 20006-1301
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Irvine
Los Angeles
San Francisco

July 2, 1997

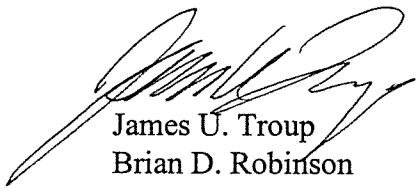
Federal Communications Commission
International Bureau -- Earth Stations
Post Office Box 358210
Pittsburgh, PA 15251-5210

Re: **Application of CAI Data Systems, Inc. to Construct, Launch and Operate a Ka-band Satellite**

CAI Data Systems, Inc., by its attorneys, hereby submits an original and nine copies of its Application to Construct, Launch and Operate a Ka-band Satellite. Also enclosed please find a check payable to the Federal Communications Commission in the amount of $87,515.00 to cover the required filing fees. The check amount represents the total of two separate fees: (1) authority to construct, $2,470.00; and (2) authority to launch and operate, $85,045.00.

Should you have questions or require further information concerning this matter, please contact the undersigned.

Very truly yours,



James U. Troup
Brian D. Robinson

92951

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of the Application of	)	
	)	
CAI Data Systems, Inc.	)	
	)	File No.
For Authority to Construct, Launch	)	
and Operate a Communication Satellite	)	
in the Domestic Fixed Satellite Service	)	

APPLICATION

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Before the
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CAI Data Systems, Inc.	)	
	)	File No.
For Authority to Construct, Launch	)	
and Operate a Communication Satellite	)	
in the Domestic Fixed Satellite Service	)	

APPLICATION

CAI Data Systems, Inc. ("CAI"), pursuant to Sections 301, 308, 309 and 319 of the Communications Act of 1934, as amended, and Part 25 of the Federal Communications Commission's ("FCC" or "Commission") Rules, hereby requests authority to construct, launch and operate a Ka-band satellite in the domestic fixed satellite service ("FSS") which will provide state-of-the-art satellite communications services in the Ka-band.

CAI's system will be capable of providing a high-quality two-way video, voice and data distribution service intended to serve business and residential customers throughout the continental United States. The system will employ a single satellite designed to operate over a period of twelve years operating in the CONUS orbital arc.

CAI seeks authorization to place its satellite at 93° WL or 103° WL which became available when AT&T Corp. withdrew its Ka-band applications. *In the Matter of Assignment of Orbital Locations to Space Stations in the Ka-Band, Order*, DA 97-967, released May 9, 1997 at fn. 3.[1] Grant of the authorization requested herein is in the public interest. CAI is a small

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[1]In the alternative, CAI requests that it be authorized to use 95° WL should NetSat 28 Company, L.L.C. (NetSat 28) forfeit its Ka-band authorization as a result of the proceeding initiated in *MobileMedia Corporation, et al.*, Order to Show Cause, Hearing Designation Order, and Notice of Opportunity for Hearing for Forfeiture, WT Docket No. 97-115, FCC 97-124, released April 8, 1997.

business. Grant of its application would satisfy Congress' mandate, embodied in Section 257 of the Act, to eliminate barriers to market entry for small businesses like CAI.[2] It would also be in compliance with Section 309(j)(4)(D) of the Act which directs the Commission "to ensure" the participation by small businesses in spectrum-based services.[3] Grant of the instant request is, furthermore, consistent with the Commission's obligations under Section 309(j)(6)(E) to avoid mutual exclusivity in application and licensing proceedings by measures, such as granting new market entrants access to at least one orbital position rather than assigning any single company multiple orbital positions.[4]

The forgoing application includes required information specified in Appendix B of Space Station Filing Procedures, 48 Fed. Reg.40256 and 47 C.F.R. §§ 25.114 and 25.140. Additional information requested by the Commission will be provided upon request.

1.1 Applicant.

CAI Data Systems, Inc.
18 Corporate Woods Boulevard
Third Floor
Albany, NY 12211

1.2 Correspondence.

Correspondence with respect to this application should be sent to the following:

Applicant Contact

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[2]47 U.S.C. § 257.

[3]47 U.S.C. § 309(j)(4)(D).

[4]47 U.S.C. §309(j)(6)(E). Loral Space Communications Ltd. (Loral), PanAmSat Licensee Corp. (PanAmSat) and Orion Network Systems, Inc. (Orion) have separately expressed their interests in the 93° WL and 103°WL orbital locations although they each have already been assigned one or more domestic Ka-band orbital positions.

Timothy J. Santora
President
CAI Data Systems, Inc.
18 Corporate Woods Boulevard, Third Floor
Albany, NY 12211
518/ 462-2632

Legal Counsel

James U. Troup, Esq.
Brian D. Robinson, Esq.
Arter & Hadden
1801 K Street, N. W., Suite 400K
Washington, DC 20006
202/ 775-7100

1.3 Type of Authorization Requested.

CAI requests authority to construct, launch and operate a satellite to establish a fixed satellite service in the Ka-band. Requests for earth stations, including TT&C stations, will be submitted subsequently.

2.0 Public Interest Considerations.

Grant of CAI's application will provide numerous public interest benefits by utilizing a new and innovative satellite technology capable of providing consumers with interactive multimedia services; and will provide business customers with next generation high bandwidth services. The proposed services may also operate in conjunction with the applicant's existing terrestrial "wireless cable" services operating in the 2 GHz band to provide wireless cable subscribers with a greater variety of video and interactive services. Applicant's system will employ a single Ka-band satellite to provide a ubiquitous broadband wireless communications infrastructure offering, *inter alia*, high speed data transfers, distance learning, high-speed Internet

services, interactive data, e-mail, and video conferencing abilities. Applicant's technology, when combined with its existing terrestrial wireless video services, will be capable of the provision of integrated local, regional and national video programming service, distinct from existing Direct Broadcast Satellite (DBS) systems, by offering high-quality, low-cost programming video services all over the continental United States.

Grant of this application will serve the public interest. First the proposed service will increase diversity through the provision of new technologies and services. Second, the proposed services will inject further competition in the video marketplace by providing direct and vigorous competition to traditional wireline franchised cable operators and providers of terrestrial wire and wireline bandwidth. CAI's system also promises to provide robust competition within the satellite industry, by creating dynamic and innovative, nationwide high capacity wireless services.

The CAI system may also serve to advance the growing National Information Infrastructure (NII) by interconnecting the nations school systems including those served by Instructional Television Fixed Service (ITFS) facilities that are typically integrated with terrestrial wireless cable systems. Such facilities will benefit from low-cost Internet access and other distance learning applications. Moreover, the introduction of the CAI satellite system will further CAI's efforts to link the nation's schools with high speed Internet access and promote the FCC's universal service goals.[5]

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[5]*See* Speech by Reed Hundt delivered at Evans Middle School, Washington, DC, May 13, 1997; *See gen.* In the Matter of Federal-State Joint Board on Universal Service, CC Docket 96-54, FCC 97-157, released May 8, 1997.

Grant of the instant application will advance the Commission's statutory mandate to promote new and innovative technologies, while promoting its public policy goals of establishing viable competition within the wireless communications, satellite and multichannel video markets and maximizing efficient use of the spectrum.

3.0 General Description of Overall System.

CAI proposes a satellite communications system consisting of a single Ka-band satellite and associated earth stations capable of sending and receiving high speed broadband digital communications from feeder link earth stations and ground terminals within the continental United States. Individual ground terminals will have the capability of sending data back through the CAI satellite to other ground terminals and/or the principal CAI earth station.

CAI does not plan to enter the business of designing, manufacturing, or distributing the ground terminals used to communicate with the CAI satellite. CAI anticipates that it will work closely with equipment and satellite manufacturers to ensure that the products that they develop are compatible with the CAI system.

4.0 Program Milestones.

Program milestones have been estimated and are provided as Exhibit 1 of the instant application.

5.0 Estimated Program Costs.

The estimated costs of the CAI proposal are provided as Exhibit 2 of the instant application.

6.0 Legal Qualifications of Applicant.

CAI Data Systems, Inc. is incorporated under the laws of the state of Deleware and is a wholly subsidiary of CAI Wireless Systems, Inc. The officers and directors of the applicant are as follows:

Timothy J. Santora, President
James P. Ashman, Executive Vice President
Sabino Rodriguez, III, Secretary and Treasurer

The applicant's legal qualifications are further demonstrated by its parent company's most recently filed FCC Form 430 dated March 26, 1997, which is attached as Exhibit 3 of the instant application.

7.0 Financial Qualifications of Applicant.

As indicated above, the estimated costs of CAI's system are contained in Exhibit 2 of the instant application. Section 25.140(b) of the Commission's Rules requires that each applicant for a space station authorization in the domestic fixed-satellite service (FSS) demonstrate that it has the current financial ability to meet the estimated costs for the construction and launch of the proposed space station, and the estimated costs for operation of the proposed space station for one year after launch. See 47 C.F.R. §25.140(c)(1)-(2). The Commission indicated that it may alter its financial qualifications for domestic FSS applicants proposing operations in the Ka-band.

CAI intends to finance the construction, launch and first-year operation of its satellite system through the issuance of equity and debt securities. However, as discussed below, due to the nature of CAI's proposal, CAI respectfully requests that the Commission waive its current financial qualifications requirements applicable to domestic FSS licensees, and if necessary any subsequently adopted requirements specific to Ka-band applicants. Such a waiver is justified. The Commission has routinely applied its financial qualifications to applicants in a particular satellite service based upon the "entry opportunities" in the particular service.[6] Specifically, the Commission has concluded that the existence of entry opportunities in the service being licensed is an important factor, and that "[w]here grant to one applicant will not prevent another from going forward, the required financial demonstration has been rather liberal."[7] In each of the "*Order[s] and Authorization[s]*" granted to the Ka-band licensees in the first processing round, the Commission determined that there are sufficient orbitals slots to accomodate the applicants in the first processing round as well as subsequent applicants, and therefore, it was "not necessary to rule on the applicants' financial qualifications."[8] Thus, because the Commission has concluded that additional orbital slots are available for the instant Ka-band proposal, as well as other proposals, the waiver is justified.

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6 See *e.g.*, Morning Star Satellite Company, L.L.C., File Nos. 190 through 193-SAT-P/LA-95, para. 12 (released May 9, 1997), see also In re EarthWatch Incorporated, File Nos. 21/22-DSS-P-93; 43-DSS-LA 94(2); 52-SAT-AMEND-95, DA 95-1707, para. 11 (released August 1, 1995) ("EarthWatch"); Norris Satellite Communications, Inc., 7 FCC Rcd 4289 (1992) ("Norris").

7 *See EarthWatch*, para. 11.

8 *Morningstar* at 13.

For the reasons stated above, Commission grant of CAI's waiver request is appropriate, and complies with the Commission's public interest considerations as articulated in the Authorizations from the first processing round of Ka-band applicants, *Norris* and other Commission precedent. Therefore, CAI respectfully requests that the Commission waive its financial qualifications requirements with respect to CAI's domestic fixed-satellite service application.

8.0 Determination of Common Carrier Status.

The Applicant for the system described in this application intends to offer all of the available transponders on this satellite system on a non-common carrier basis. The transponders carried on-board this satellite may be offered for sale or lease to customers over the lifetime of the satellite at the option of CAI.

9.0 Waiver of Claims Pursuant to Section 304 of the Act.

CAI hereby waives any claim to the use of any particular frequency of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise.

10.0 Certification of Person Responsible for Preparing Engineering Information Submitted in This Application.

See following page.

ENGINEERING CERTIFICATION

I hereby certify that I am the technically qualified person responsible for preparation of the engineering information contained in this application and the exhibits attached hereto; that I am familiar with Part 25 of the Commission's Rules and Appendix B to the 1983 Orbital Assignment Order; that I have either prepared or reviewed the engineering information contained in this application and the exhibits attached hereto; and that it is complete and accurate to the best of my knowledge.

By: Kenneth A. Ryan

Date: July 1, 1997

11.0 Anti-Drug Abuse Act of 1988

The Applicant hereby certifies under penalty of perjury that neither the Applicant nor any party to this application is subject to a denial of federal benefits by Federal and/or state courts under authority granted in 21 U.S.C. §853 (a).

12.0 Certification.

The undersigned certifies that the statements made in this application are true, complete and correct to the best of my knowledge and belief, and are made in good faith.

CAI respectfully requests that the Commission grant this application.

Respectfully submitted,

CAI DATA SYSTEMS, INC.

By: _____

Timothy J. Santora
President

87256

Technical Description of the CAI Satellite System and the CAI Satellite

1.0 Introduction.

Employing a single geostationary communication satellite located at 93°WL or 103°WL, and utilizing frequencies in the Ka-Band spectrum, CAI will provide domestic delivery of two-way video and data services to business and residential subscribers in the U.S. In the approach put forth in this application, CAI will provide the vehicle for high bandwidth necessary for distribution of services such as Internet access services, video services, interactive and high speed data services.

2.0 Satellite Description.

CAI will use a spacecraft model employing a three-axis body-stabilized bus that is currently in production, *e.g.*, the Loral 1300, Hughes 601HP or the Martin A2100. Each of these spacecraft is capable of supporting a payload necessary to support the service proposed in this application. Because these satellites are currently in production they can be deployed by several launch vehicles including the Ariane 4, Atlas 2, the Long March 2E or the Proton. The launch vehicle chosen will be capable of deploying the CAI satellite into a geostationary transfer orbit. Final deployment into geosynchronous orbit will be accomplished by an on-board liquid propulsion system.

2.1 Spacecraft Bus.

The following describes the subsystems comprising the spacecraft bus.

2.1.1 Structure.

The basic structure of the satellite will be dependent upon CAI's choice of manufacturer and will be either a rectangle (Hughes and Martin) or a cylinder (Loral). Each structure is designed with panels and/or shelves utilized for mounting of the various spacecraft systems, including supports for liquid propellant tanks. The structure is also a critical element in maintaining thermal control during spacecraft lifetime. The total satellite separation mass is estimated to be approximately 3500 kgs including propellant for a twelve year lifetime.

2.1.2 Thermal Control System.

Thermal control is achieved through the use of heaters, blankets, optical solar reflecting surfaces, heat pipes, heat sinks and radiators. In the vacuum of space, cooling and heating are restricted to the technologies listed and traditional thermal techniques such as convection are not available. In the end, radiation to outer space after conduction to outer surfaces is the primary method ridding the spacecraft's enclosure of the excess heat due to the inefficiencies of payload amplifiers, unit heating and battery activity. The operation of heaters and other power consuming units prove to be critical elements in the delicate heat balance operations controlled by the spacecraft's on-board computer.

2.1.3 Propulsion System.

The CAI satellite propulsion system will include all propellants, components, and assemblies associated with storing, conditioning, routing, controlling, and expelling propellant, required to change the spacecraft's attitude and its angular or linear velocity to meet the mission requirements. The propulsion subsystem operates from the moment of separation from the launch vehicle, through and including the final orbit raising maneuver.

The propulsion system also maintains the satellite's position in orbit for the lifetime of the program. This system will maintain the satellite's E-W and N-S drift so as to remain within +/- 0.05° of the satellite's intended orbital location. With use of the propulsion system described above in combination with remote sensing systems designed to allow accurate measurement of the satellite's position and attitude in space, a satellite lifetime of at least twelve years can be achieved.

2.1.4 Attitude Control System.

The attitude control system (ACS) will be used to perform multiple tasks intended to maintain the spacecraft's attitude control during its launch and throughout its lifetime. The ACS will provide station acquisition and on-station attitude control. The ACS will vary widely based on which manufacturer is finally selected to build the CAI satellite, however the ACS design will incorporate sun and earth sensors, momentum wheels, and thrusters to perform its required functions.

2.1.5 Electric Power System.

The electric power system is expected to provide electric power to all satellite subsystems during all phases of the satellite's mission. Power is supplied by a gallium arsenide or silicon solar array (the decision between the two options to be made during the vendor selection process) which would generate electrical power from sunlight, and a nickel-hydrogen battery which would be used for energy storage. During times of full or partial eclipse, the battery would be available to run all satellite systems at full power for the lifetime of the satellite. In addition to the arrays and batteries, the power system consists of regulating and distribution devices which monitor and control the satellite's internal power system.

The satellite's power requirements are approximately as follows:

Payload requirement - approximately 6000 watts

Bus requirement - approximately 500 watts

Batteries capable of full eclipse operation for lifetime

Batteries to operate with maximum 80% DOD.

For an estimated twelve year lifetime, the total power required is approximately 7500 watts. This includes the peak power needed for summer solstice, as well as the expected degradation over the satellite's proposed twelve year useful lifetime.

2.1.6 Command, Telemetry and Ranging System.

The Command subsystem receives, demodulates, decrypts and distributes command messages originated on the earth or internally from the attitude control system. The Telemetry subsystem collects, formats, modulates and transmits information related to spacecraft performance and configuration to the earth. The Ranging subsystem modulates ranging tones received by the command receivers on to the telemetry system permitting accurate determination of the satellite's range to ground controllers. The TT&C system forms the basic link between the satellite's operators and the satellite, allowing control of its various functions from the earth, and monitoring its vital functions in space. The telemetry system will be operated by the vendor utilizing the Ku-Band and Ka-band as noted in the section on frequencies to be employed.

3.0 Communications Payload.

The CAI payload will consist of a Ka-Band communication system including redundant Ka-Band receivers and downconverters, traveling wave tube amplifiers plus spare amplifiers, input and output multiplexers and transmit and receive antennas. A total of forty-eight Ka Band

transponders will be employed, each of which is to be 40 MHz in bandwidth. These transponders will be coupled with a series of spacecraft antennas designed to provide multi-area coverage of the continental United States.

3.1 Antenna Coverage.

CAI intends to provide coverage of the continental United States from an available position in the CONUS orbital arc. The coverage outlined for CONUS will consist of five separate service areas corresponding with the five separate beams shown in Figure 1. Additional coverages may also be employed for Alaska and Hawaii although these states might not be covered initially. The ground terminals in these areas will operate at elevation angles above 30°.[9] The coverage areas have been determined by analysis of rain conditions in the various regions. CAI has attempted to obtain the highest signal availability coupled with the smallest ground terminal antenna size.

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[9]This assumes use of 93° W.L. If 103° W.L. is used, some remote sites may have look angles of less than 30°.

Figure 1 - CAI Satellite Coverages from 93° WL

3.1.1 Rain Rates and Beam Sizes.

As demonstrated in Figure 1, CONUS coverage is achieved by five separate beams. These beams are designed to provide increased EIRP in high rain rate areas (see Figure 2, the CCIR rain climatic zones map of North America). For example, Florida and the gulf coast and the adjoining states in the Southeast Beam (1) lie in either an M or N rain zone, varying from 70-100mm/hour (for .01% of the time). For the Northwest Beam (5) the Great Lakes westward to the Pacific, rain rate zones vary from B to D to E rain zones. For the Southeast Beam (2), the South-Atlantic and westward to the Mississippi, rain conditions vary between the 50-70mm/hour rates. For the Texas/Oklahoma Beam (3) coverage varies from 40-70mm/hour. For the Southwest Beam (4), rain conditions vary between E and B zones. In each case coverages have been sized in accordance with expected rain rates, deriving from the relationship between beam size and antenna isotropic gain, where the smaller the covered area, the greater the antenna gain.

3.1.2 Coverage Areas.

The coverage areas have been designed in the form of an ellipse. However, the specific shapes of the coverage areas are likely to change during the antenna system design phase. Once the design phase has been completed, it may be necessary to increase the number of beams, which could result in fewer transponders available for each beam, or transponders could be added to make up for any required additional coverage(s).

In the preliminary design provided herein, Beam 1 covers the state of Florida and the high rain rate areas of the gulf coast, Georgia, Alabama, Mississippi, North and South Carolina and Tennessee. Beam 2 is intended to cover the states of Virginia, West

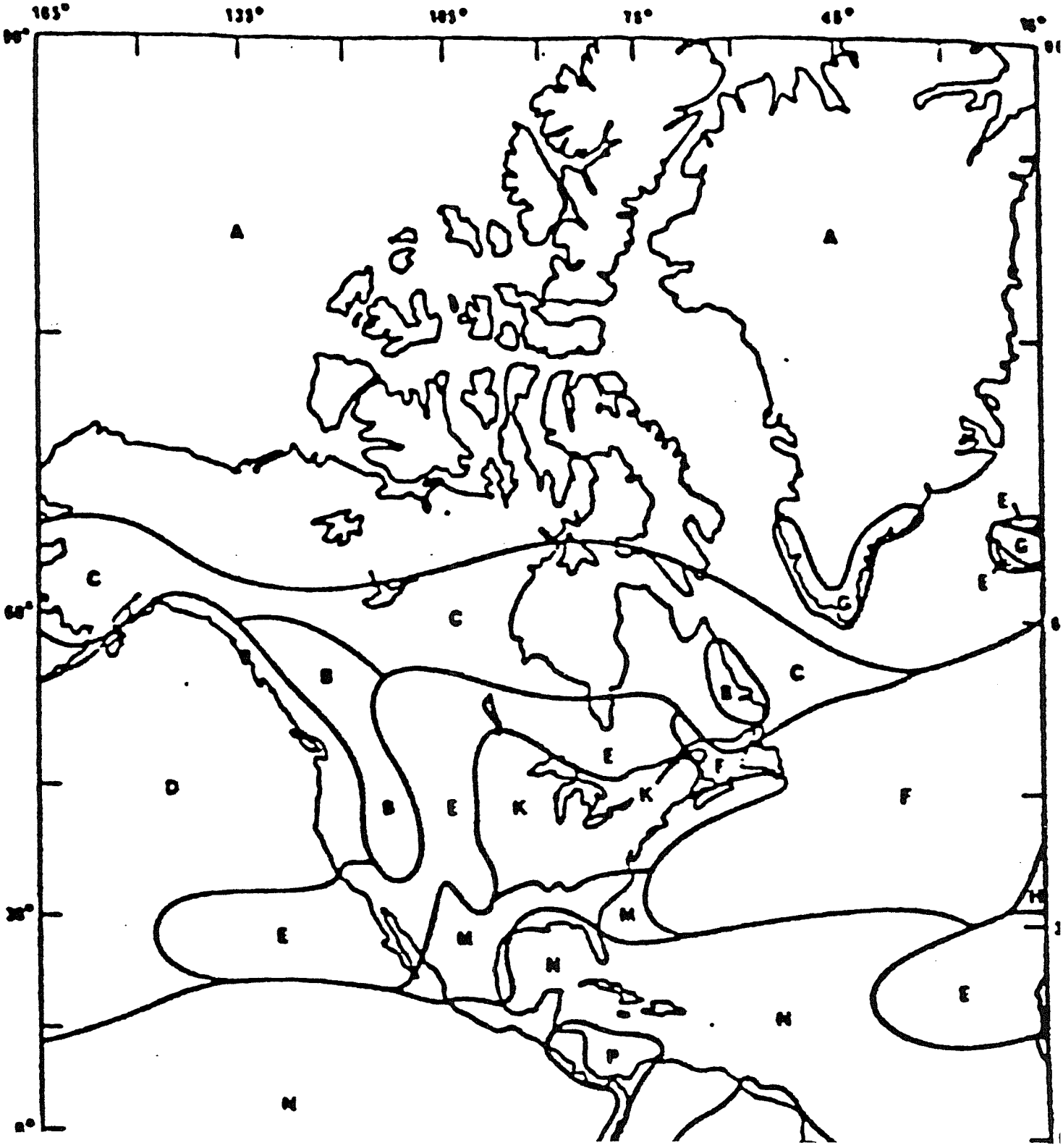


FIGURE 2 - Rain Climatic Zones for Region 2

Virginia, Kentucky, Missouri and Kansas, Michigan, Ohio, Indiana, Illinois and the Mid-Atlantic and New England states. Beam 3 covers Texas, Kansas and Oklahoma. Beam 4 covers the Southwestern states including Colorado and Utah. Beam 5 covers the Pacific Northwest, Montana, Idaho, North and South Dakota, Nebraska, Wyoming, Minnesota and Wisconsin. All CONUS coverage areas at 93° WL provide look angles above thirty degrees.

3.2 Transponders.

The current band plan described herein yields forty-eight 40 MHz transponders. The design assigns ten transponders to three of the beams and nine transponder to the two remaining beams. The actual number of transponders assigned to each beam will be driven by marketplace considerations (e.g., projected demand in the various regions) and may change during the design phase. In terms of the number of video channels available and assuming that typical digital compression techniques will be available, the allocation of transponders would result in approximately 100 TV channels per beam for those beams with ten channels, and ninety channels for those beams with only nine transponders. If additional transponders are necessary, the geographic separation of beams 1 and 5 may allow frequency sharing of those bands and the possibility of adding at least ten more transponders.

The satellite will utilize transponders of 60 watts and 90 watts. Based on availability considerations, some transponders, *e.g.* those assigned to Beam 1 and Beam 2, would utilize 90 watt transponders. Beams 3, 4 and 5 would all use 60 watt amplifiers. This yields a total payload power less than 6 kilowatts, which is well within the capability of any of today's principal U.S. satellite manufacturers.

3.3 Frequency Plan.

The frequency plan is based on using 2000 MHz of existing Ka-Band frequencies. For the uplink, CAI proposes to use the bands:

29.50-30.0 GHz - total of 500 MHz

29.25-29.5 GHz - total of 250 MHz

28.35-28.6 GHz - total of 250 MHz

For the downlink, CAI proposes to use the bands:

19.70-20.2 GHz - total of 500 MHz

19.45-19.7 GHz - total of 250 MHz

18.55-18.8 GHz - total of 250 MHz

The complete frequency plan for the CAI satellite is shown in Table 1.

Table 1 - CAI Frequency Plan

Transmission Channel	Freq Up/Dn	Pol	Transmission Channel	Freq Up/Dn	Pol
1	28355/17775	V/H	25	28355/17775	H/V
2	28395/17815	V/H	26	28395/17815	H/V
3	28435/17855	V/H	27	28435/17855	H/V
4	28475/17895	V/H	28	28475/17895	H/V
5	28515/17935	V/H	19	28515/17935	H/V
6	28555/17975	V/H	30	28555/17975	H/V
7	29255/18575	V/H	31	29255/18575	H/V
8	29295/18615	V/H	32	29295/18615	H/V
9	29335/18655	V/H	33	29335/18655	H/V
10	29375/18695	V/H	34	29375/18695	H/V
11	29415/18735	V/H	35	29415/18735	H/V
12	29455/18775	V/H	36	29455/18775	H/V
13	29495/19730	V/H	37	29495/19730	H/V
14	29535/19770	V/H	38	29535/19770	H/V
15	29575/19810	V/H	39	29575/19810	H/V
16	29615/19850	V/H	40	29615/19850	H/V
17	29655/19890	V/H	41	29655/19890	H/V
18	29695/19930	V/H	42	29695/19930	H/V
19	29735/19970	V/H	43	29735/19970	H/V
20	29775/20010	V/H	44	29775/20010	H/V
21	29815/20050	V/H	45	29815/20050	H/V
22	29855/20090	V/H	46	29855/20090	H/V
23	29895/20130	V/H	47	29895/20130	H/V
24	29935/20170	V/H	48	29935/20170	H/V

The exact assignment of frequencies to beams and transponders will emerge during the satellite's preliminary design effort.

3.4 TT&C Frequency Plan.

Sufficient bandwidth is located in the Ka-Band spectrum (5 MHz at lower end and 30 MHz at upper end) for use to provide for TT&C operations during mission life, however, during transfer orbit when the omni antenna is in use, FSS Ku-Band frequencies would be employed. The frequency plan for the TT&C system for CAI is shown in Table 2.

Table 2 - CAI TT&C Frequency Assignments

Usage	Freq Up/Dn	Pol
Transfer orbit	14000.3/11700.3	H/V
On orbit	29967/20197	H/V

Once a TT&C vendor is selected, CAI will work with the vendor to ensure that use of the proposed Ku-band frequencies does not cause harmful interference.

3.5 Spatial Frequency Reuse.

Currently, CAI has no plans for spatial frequency reuse because the number of transponders identified in Table 1 appears to be sufficient to permit full operation of the system. However, to the extent required by the FCC's Rules to be adopted in the forthcoming Order concerning 28 GHz Satellite Rules, CAI will consider necessary adjustments to its proposal. For example, as discussed above spacial diversity may be employed to add transponders. No interference assessment has been included to address frequency reuse issues. In the event that it is necessary, CAI stands ready to provide any additional interference analysis.

3.6 Link Analysis.

To the extent that CAI will be engaged in the delivery of digitally compressed NTSC television to very small ground terminals, it provides the following Link Analysis. Depending on the rain zone where the terminal is located, dish size could vary between 0.6-meters and 0.9-meters (*see* the availability analysis in Section 3.7 and the link analysis at tables 4-8 for exact details). Analyses for each beam shown in the accompanying link budgets using the spacecraft parameters set forth below.

3.6.1 Spacecraft Payload Parameters.

The Amplifiers employed by CAI will be 60 watts and 90 watts, depending on the beam to which they are assigned. The conversion factor for these amplifiers has been assumed to be 2dB resulting in power available to the various antennas of 15.75 dBW and 17.5 dBW. This assumption is necessary because the actual layout of the spacecraft will not be determined until the design phase is completed. At that time, CAI will determine the precise conversion factor. The gains of the individual downlink beams are conservatively predicted as shown in Table 3 together with predicted EIRP of each beam.

Uplink performance is, *inter alia*, a function of beam coverage. Although not detailed in this application, each of the individual downlink beams will be capable of providing certain narrowband uplink services. In addition, there is a principle uplink beam covering CONUS and three independent US Spot Beams (1° x 1°, with G/T = + 12dB/K). The CONUS uplink beam is for future use. The US Spot Beams are designed to allow program origination, program assembly, compression (encoders) and multiplex equipment to be located at

Table 3 - Beam EIRP's

Beam Name	Power (DBW)	Antenna Gain (DBI)	EIRP (DBI)
Southeast	17.5	36.6	54.1
Northeast	17.5	37.1	54.6
Texas/Oklahoma	15.75	38.5	54.25
Southwest	15.75	36.9	52.65
Northwest	15.75	35.37	51.12

two or three strategic cities. The spot beams are moveable allowing uplinking to occur from different locations.

3.7 Link Performance.

The expected performance of the CAI system is described in the following link analyses for each of the spacecraft's beams. In most cases where a beam covers more than one rain climatic zone, a link analysis has been performed for each zones. To maintain availability above 99.5%, earth station size may have been increased to improve link performance in the same beam coverage.

All uplink beams will use uplink power control systems (ULPC) in which a downlink carrier (beacon) located in the 19 GHz frequency band is monitored by the earth station and uplink power at 29 GHz is adjusted to compensate for losses incurred due to rain or other unfavorable meteorological conditions. In this way the system compensates for uplink power which would be lost without such a feedback system. In addition, the satellite will be equipped

with a limiter system so that the amplifiers cannot be overdriven. This allows uplink power to be continuously set for a higher power, thus preparing in advance, for transmission losses due to rain degradation. As can be seen in the accompanying tables, the uplink availability has therefore been set to 99.99%. In practice this is accomplished by setting the uplink rain zone to an A zone which is typically the weather of a desert like area with little or no probability of rain. It is acknowledged that at certain times insufficient uplink EIRP may be available to overcome some infrequent rainstorms of a particularly heavy nature. If after further study this condition looks realistic, a larger uplink antenna (6.1-meters) will be used.

3.7.1 Southeast Beam Performance.

The Southeast Beam covers the heaviest rain zone in the continental US. Although the elliptical beam covering this area only has a gain of 36.6 dBi, in reality a shaped coverage will be used, eliminating between 35-45% of the area shown covered. This concentrated coverage will increase beam gain by 3-5 dB providing improved performance over the designated land masses. This analysis however will continue to use the elliptical coverage beam gains since those have been calculated using the gain-area product method.

For that portion of the covered area located in rain zone N (95mm/hour), the analysis in Table 4A indicates a total link availability of 99.60% (approximately 5.8 minutes per day). This availability is the result of a satellite EIRP of 54.1 dBW and a receiving antenna of 0.9m (35 inches) with a station G/T of 20.5 dB/K. It is widely agreed that the Florida/Gulf Coast area is a particularly heavy rain area in the US. Additional margin and availability improvement will be obtainable when the satellite beam covering Florida is shaped.

For that portion of the covered area located in rain zone M (63mm/hour), the analysis in Table 4B indicates a total link availability of 99.79% could be achieved (approximately 3.0 minutes per day). This availability is the result of a satellite EIRP of 54.1 dBW and a receiving antenna of 0.9m (35 inches) with a station G/T of 20.5 dB/K.

3.7.2 Northeast Beam Performance.

The covered area in Northeastern US is located in rain zone K (42mm/hour). The analysis in Table 5 indicates a total link availability of 99.60% could be achieved (approximately 5.8 minutes per day). This availability is the result of a satellite EIRP of 54.6 dBW and a receiving antenna of 0.6m (23.5 inches) with a station G/T of 17 dB/K.

3.7.3 Texas/Oklahoma (Kansas) Beam Performance.

The covered area in south central US is located in rain zones K, M and E. The analysis in Table 6A is for rain zone M (63mm/hour) and indicates that a total link availability of 99.8% could be achieved (approximately 2.5 minutes per day). This availability is the result of a satellite EIRP of 54.3 dBW and a receiving antenna of 0.9m (35 inches) with a station G/T of 20.5 dB/K.

For that portion of the covered area located in rain zone K (42mm/hour), the analysis in Table 6B indicates a total link availability of 99.69% could be achieved (approximately 4.5 minute per day). This availability is the result of a satellite EIRP of 54.3 dBW and a receiving antenna of 0.6m (23.5 inches) with a station G/T of 17dB/K.

3.7.4 Southwest Beam Performance.

The covered area in southwestern US is located in rain zones B and E. The analysis in Table 7A is for rain zone B (12mm/hour) and indicates that a total link

Satellite Parameters				
Satellite	CAI	Transponder IPBO	0.0	dB
Orbital Location	93 deg WL	Transponder OPBO	0.0	dB
SFD	-88 dBW/m2	Transponder B/W	36.0	MHz
D/L Beam Type	SouthEast	Transponder G/T	12.0	dB/K
Link Requirements				
Link Availability	99.6%	Carrier Type	Dig TV	
Channel bandwidth	36 MHz	Modulation Type	QPSK	
Required C/No	82.4 dBHz	Information Rate	38878.0	kbps
Required Eb/No	6.5 dB	FEC Rate	3/4	

Uplink Analysis	Clear sky	Rain Up	Rain Down	Units
Frequency	28.75	28.75	28.75	GHz
Uplink E/S EIRP	74.6	74.6	74.6	dBW
Path Loss	-213.3	-213.3	-213.3	dB
Atmospheric Loss	0.0	0.0	0.0	dB
Rain Fade Loss	0.0	-9.1	0.0	dB
Satellite G/T	12.0	12.0	12.0	dB/K
Uplink C/N	26.3	17.2	26.3	dB
Downlink Analysis				
Frequency	18.95	18.95	18.95	GHz
Satellite EIRP	54.1	54.1	54.1	dBW
Output Backoff Per carrier	0.0	-3.9	0.0	dB
Path Loss	-209.4	-209.4	-209.4	dB
Rain Attenuation (Zone N)	0.0	0.0	-9.3	dB
Pointing Loss	-0.5	-0.5	-0.5	dB
E/S G/T	20.5	20.5	20.5	dB/K
Downlink C/N	17.7	13.8	8.4	dB
Interference				
Uplink Co-channel C/I	27.0	17.9	27.0	dB
Dnlink Co-channel C/I	27.0	23.1	27.0	dB
Uplink Adj Satellite C/I	21.0	11.9	21.0	dB
Dnlink Adj Satellite C/I	21.0	17.1	21.0	dB
Total C/I	17.0	9.8	17.0	dB
Overall Link				
C/Nd	17.7	13.8	8.4	dB
C/Nu	26.3	17.2	26.3	dB
C/I(total)	17.0	9.8	17.0	dB
C/(N+I) total	14.1	7.8	7.8	dB
Required C/N	6.8	6.8	6.8	dB
Margin	7.3	1.0	1.0	dB

Earth Station Parameters	Uplink	Downlink		
Site Latitude	41.0	26.0	deg N	
Site Longitude	74.0	80.0	deg W	
Antenna Size	4.6	0.9	m	
Uplink Power/Carrier	13.6		dBW	
Azimuth	207.69	207.77	deg	
Elevation	38.78	56.34	deg	

Link Summary				
U/L Power Den	-61.9	dBW/Hz	Trans B/W	100.00%
D/L EIRP Den	-18.5	dBW/Hz	Trans Pwr	100.00%
U/L Avail 99.99%	D/L Avail 99.61 %		Total Link Avail	99.60%

Table 4A - Southeast Beam Link Analysis, 0.9m Remote Terminal in Rain Zone N

Satellite Parameters				
Satellite	CAI	Transponder IPBO	0.0	dB
Orbital Location	93 deg WL	Transponder OPBO	0.0	dB
SFD	-88 dBW/m2	Transponder B/W	36.0	MHz
D/L Beam Type	SouthEast	Transponder G/T	12.0	dB/K
Link Requirements				
Link Availability	99.6%	Carrier Type	Dig TV	
Channel bandwidth	36 MHz	Modulation Type	QPSK	
Required C/No	82.4 dBHz	Information Rate	38878.0	kbps
Required Eb/No	6.5 dB	FEC Rate	3/4	

Uplink Analysis	Clear sky	Rain Up	Rain Down	Units
Frequency	28.75	28.75	28.75	GHz
Uplink E/S EIRP	74.6	74.6	74.6	dBW
Path Loss	-213.3	-213.3	-213.3	dB
Atmospheric Loss	0.0	0.0	0.0	dB
Rain Fade Loss	0.0	-9.1	0.0	dB
Satellite G/T	12.0	12.0	12.0	dB/K
Uplink C/N	26.3	17.2	26.3	dB
Downlink Analysis				
Frequency	18.95	18.95	18.95	GHz
Satellite EIRP	54.1	54.1	54.1	dBW
Output Backoff Per carrier	0.0	-3.9	0.0	dB
Path Loss	-209.4	-209.4	-209.4	dB
Rain Attenuation (Zone M)	0.0	0.0	-9.3	dB
Pointing Loss	-0.5	-0.5	-0.5	dB
E/S G/T	20.5	20.5	20.5	dB/K
Downlink C/N	17.7	13.8	8.4	dB
Interference				
Uplink Co-channel C/I	27.0	17.9	27.0	dB
Dnlink Co-channel C/I	27.0	23.1	27.0	dB
Uplink Adj Satellite C/I	21.0	11.9	21.0	dB
Dnlink Adj Satellite C/I	21.0	17.1	21.0	dB
Total C/I	17.0	9.8	17.0	dB
Overall Link				
C/Nd	17.7	13.8	8.4	dB
C/Nu	26.3	17.2	26.3	dB
C/I(total)	17.0	9.8	17.0	dB
C/(N+I) total	14.1	7.8	7.8	dB
Required C/N	6.8	6.8	6.8	dB
Margin	7.3	1.0	1.0	dB

Earth Station Parameters	Uplink	Downlink		
Site Latitude	41.0	34.0	deg N	
Site Longitude	74.0	84.0	deg W	
Antenna Size	4.6	0.9	m	
Uplink Power/Carrier	13.6		dBW	
Azimuth	207.69	195.81	deg	
Elevation	38.78	49.33	deg	

Link Summary				
U/L Power Den	-61.9	dBW/Hz	Trans B/W	100.00%
D/L EIRP Den	-18.5	dBW/Hz	Trans Pwr	100.00%
U/L Avail 99.99%	D/L Avail 99.8 %		Total Link Avail	99.79%

Table 4B - Southeast Beam Link Analysis, 0.9m Remote Terminal in Rain Zone M

Satellite Parameters				
Satellite	CAI	Transponder IPBO	0.0	dB
Orbital Location	93 deg WL	Transponder OPBO	0.0	dB
SFD	-88 dBW/m2	Transponder B/W	36.0	MHz
D/L Beam Type	Northeast	Transponder G/T	12.0	dB/K
Link Requirements				
Link Availability	99.6%	Carrier Type	Dig TV	
Channel bandwidth	36 MHz	Modulation Type	QPSK	
Required C/No	82.4 dBHz	Information Rate	38878.0	kbps
Required Eb/No	6.5 dB	FEC Rate	3/4	

Uplink Analysis	Clear sky	Rain Up	Rain Down	Units
Frequency	28.75	28.75	28.75	GHz
Uplink E/S EIRP	74.6	74.6	74.6	dBW
Path Loss	-213.3	-213.3	-213.3	dB
Atmospheric Loss	0.0	0.0	0.0	dB
Rain Fade Loss	0.0	-7.9	0.0	dB
Satellite G/T	12.0	12.0	12.0	dB/K
Uplink C/N	26.3	18.4	26.3	dB
Downlink Analysis				
Frequency	18.95	18.95	18.95	GHz
Satellite EIRP	54.6	54.6	54.6	dBW
Output Backoff Per carrier	0.0	-2.9	0.0	dB
Path Loss	-209.7	-209.7	-209.7	dB
Rain Attenuation (Zone K)	0.0	0.0	-6.0	dB
Pointing Loss	-0.5	-0.5	-0.5	dB
E/S G/T	17.0	17.0	17.0	dB/K
Downlink C/N	14.4	11.5	8.4	dB
Interference				
Uplink Co-channel C/I	27.0	19.1	27.0	dB
Dnlink Co-channel C/I	27.0	24.1	27.0	dB
Uplink Adj Satellite C/I	21.0	13.1	21.0	dB
Dnlink Adj Satellite C/I	21.0	18.1	21.0	dB
Total C/I	17.0	10.9	17.0	dB
Overall Link				
C/Nd	14.4	11.5	8.4	dB
C/Nu	26.3	18.4	26.3	dB
C/I(total)	17.0	10.9	17.0	dB
C/(N+I) total	12.3	7.8	7.8	dB
Required C/N	6.8	6.8	6.8	dB
Margin	5.5	1.0	1.0	dB

Earth Station Parameters	Uplink	Downlink		
Site Latitude	41.0	41.0	deg N	
Site Longitude	74.0	74.0	deg W	
Antenna Size	4.6	0.6	m	
Uplink Power/Carrier	13.6		dBW	
Azimuth	207.69	207.69	deg	
Elevation	38.78	38.78	deg	
Link Summary				
U/L Power Den	-61.9	dBW/Hz	Trans B/W	100.00%
D/L EIRP Den	-18.0	dBW/Hz	Trans Pwr	100.00%
U/L Avail 99.99%	D/L Avail 99.61 %		Total Link Avail	99.60%

Table 5 - Northeast Beam Link Anaalysis, 0.6m Remote Terminal in Rain Zone K

Satellite Parameters				
Satellite	CAI	Transponder IPBO	0.0	dB
Orbital Location	93 deg WL	Transponder OPBO	0.0	dB
SFD	-88 dBW/m2	Transponder B/W	36.0	MHz
D/L Beam Type	Tex/OK	Transponder G/T	12.0	dB/K
Link Requirements				
Link Availability	99.6%	Carrier Type	Dig TV	
Channel bandwidth	36 MHz	Modulation Type	QPSK	
Required C/No	82.4 dBHz	Information Rate	38878.0	kbps
Required Eb/No	6.5 dB	FEC Rate	3/4	

Uplink Analysis	Clear sky	Rain Up	Rain Down	Units
Frequency	28.75	28.75	28.75	GHz
Uplink E/S EIRP	74.6	74.6	74.6	dBW
Path Loss	-213.3	-213.3	-213.3	dB
Atmospheric Loss	0.0	0.0	0.0	dB
Rain Fade Loss	0.0	-9.2	0.0	dB
Satellite G/T	12.0	12.0	12.0	dB/K
Uplink C/N	26.3	17.1	26.3	dB
Downlink Analysis				
Frequency	18.95	18.95	18.95	GHz
Satellite EIRP	54.3	54.3	54.3	dBW
Output Backoff Per carrier	0.0	-3.9	0.0	dB
Path Loss	-209.4	-209.4	-209.4	dB
Rain Attenuation (Zone M)	0.0	0.0	-9.5	dB
Pointing Loss	-0.5	-0.5	-0.5	dB
E/S G/T	20.5	20.5	20.5	dB/K
Downlink C/N	17.9	14.0	8.4	dB
Interference				
Uplink Co-channel C/I	27.0	17.8	27.0	dB
Dnlink Co-channel C/I	27.0	23.1	27.0	dB
Uplink Adj Satellite C/I	21.0	11.8	21.0	dB
Dnlink Adj Satellite C/I	21.0	17.1	21.0	dB
Total C/I	17.0	9.7	17.0	dB
Overall Link				
C/Nd	17.9	14.0	8.4	dB
C/Nu	26.3	17.1	26.3	dB
C/I(total)	17.0	9.7	17.0	dB
C/(N+I) total	14.2	7.8	7.8	dB
Required C/N	6.8	6.8	6.8	dB
Margin	7.4	1.0	1.0	dB

Earth Station Parameters	Uplink	Downlink		
Site Latitude	41.0	33.0	deg N	
Site Longitude	74.0	97.0	deg W	
Antenna Size	4.6	0.9	m	
Uplink Power/Carrier	13.6		dBW	
Azimuth	207.69	172.68	deg	
Elevation	38.78	51.39	deg	

Link Summary				
U/L Power Den	-61.9	dBW/Hz	Trans B/W	100.00%
D/L EIRP Den	-18.3	dBW/Hz	Trans Pwr	100.00%
U/L Avail 99.99%	D/L Avail 99.8 %		Total Link Avail	99.79%

Table 6A - Texas/Okla. Beam Link Analysis, 0.9m Remote Terminal in Rain Zone M

Satellite Parameters				
Satellite	CAI	Transponder IPBO	0.0	dB
Orbital Location	93 deg WL	Transponder OPBO	0.0	dB
SFD	-88 dBW/m2	Transponder B/W	36.0	MHz
D/L Beam Type	Tex/OK	Transponder G/T	12.0	dB/K
Link Requirements				
Link Availability	99.6%	Carrier Type	Dig TV	
Channel bandwidth	36 MHz	Modulation Type	QPSK	
Required C/No	82.4 dBHz	Information Rate	38878.0	kbps
Required Eb/No	6.5 dB	FEC Rate	3/4	

Uplink Analysis	**Clear sky**	**Rain Up**	**Rain Down**	**Units**
Frequency	28.75	28.75	28.75	GHz
Uplink E/S EIRP	74.6	74.6	74.6	dBW
Path Loss	-213.3	-213.3	-213.3	dB
Atmospheric Loss	0.0	0.0	0.0	dB
Rain Fade Loss	0.0	-7.9	0.0	dB
Satellite G/T	12.0	12.0	12.0	dB/K
Uplink C/N	26.3	18.4	26.3	dB
Downlink Analysis				
Frequency	18.95	18.95	18.95	GHz
Satellite EIRP	54.3	54.3	54.3	dBW
Output Backoff Per carrier	0.0	-2.9	0.0	dB
Path Loss	-209.4	-209.4	-209.4	dB
Rain Attenuation (Zone K)	0.0	0.0	-6.0	dB
Pointing Loss	-0.5	-0.5	-0.5	dB
E/S G/T	17.0	17.0	17.0	dB/K
Downlink C/N	14.4	11.5	8.4	dB
Interference				
Uplink Co-channel C/I	27.0	19.1	27.0	dB
Dnlink Co-channel C/I	27.0	24.1	27.0	dB
Uplink Adj Satellite C/I	21.0	13.1	21.0	dB
Dnlink Adj Satellite C/I	21.0	18.1	21.0	dB
Total C/I	17.0	10.9	17.0	dB
Overall Link				
C/Nd	14.4	11.5	8.4	dB
C/Nu	26.3	18.4	26.3	dB
C/I(total)	17.0	10.9	17.0	dB
C/(N+I) total	12.3	7.8	7.8	dB
Required C/N	6.8	6.8	6.8	dB
Margin	5.5	1.0	1.0	dB

Earth Station Parameters	**Uplink**	**Downlink**		
Site Latitude	41.0	37.0	deg N	
Site Longitude	74.0	94.0	deg W	
Antenna Size	4.6	0.6	m	
Uplink Power/Carrier	13.6		dBW	
Azimuth	207.69	178.34	deg	
Elevation	38.78	47.10	deg	

Link Summary				
U/L Power Den	-61.9	dBW/Hz	Trans B/W	100.00%
D/L EIRP Den	-18.3	dBW/Hz	Trans Pwr	100.00%
U/L Avail 99.99%	D/L Avail 99.7 %		Total Link Avail	99.69%

Table 6B - Texas/Okla. Beam Link Analysis, 0.6m Remote Terminal in Rain Zone K

Satellite Parameters				
Satellite	CAI	Transponder IPBO	0.0	dB
Orbital Location	93 deg WL	Transponder OPBO	0.0	dB
SFD	-88 dBW/m2	Transponder B/W	36.0	MHz
D/L Beam Type	SouthWest	Transponder G/T	12.0	dB/K
Link Requirements				
Link Availability	99.6%	Carrier Type	Dig TV	
Channel bandwidth	36 MHz	Modulation Type	QPSK	
Required C/No	82.4 dBHz	Information Rate	38878.0	kbps
Required Eb/No	6.5 dB	FEC Rate	3/4	

Uplink Analysis	Clear sky	Rain Up	Rain Down	Units
Frequency	28.75	28.75	28.75	GHz
Uplink E/S EIRP	74.6	74.6	74.6	dBW
Path Loss	-213.2	-213.2	-213.2	dB
Atmospheric Loss	0.0	0.0	0.0	dB
Rain Fade Loss	0.0	-6.9	0.0	dB
Satellite G/T	12.0	12.0	12.0	dB/K
Uplink C/N	26.4	19.5	26.4	dB
Downlink Analysis				
Frequency	18.95	18.95	18.95	GHz
Satellite EIRP	52.7	52.7	52.7	dBW
Output Backoff Per carrier	0.0	-2.3	0.0	dB
Path Loss	-209.6	-209.6	-209.6	dB
Rain Attenuation (Zone B)	0.0	0.0	-4.4	dB
Pointing Loss	-0.5	-0.5	-0.5	dB
E/S G/T	17.0	17.0	17.0	dB/K
Downlink C/N	12.6	10.3	8.2	dB
Interference				
Uplink Co-channel C/I	27.0	20.1	27.0	dB
Dnlink Co-channel C/I	27.0	24.7	27.0	dB
Uplink Adj Satellite C/I	21.0	14.1	21.0	dB
Dnlink Adj Satellite C/I	21.0	18.7	21.0	dB
Total C/I	17.0	11.8	17.0	dB
Overall Link				
C/Nd	12.6	10.3	8.2	dB
C/Nu	26.4	19.5	26.4	dB
C/I(total)	17.0	11.8	17.0	dB
C/(N+I) total	11.1	7.7	7.6	dB
Required C/N	6.8	6.8	6.8	dB
Margin	4.3	0.9	0.8	dB

Earth Station Parameters	Uplink	Downlink		
Site Latitude	41.0	40.0	deg N	
Site Longitude	74.0	119.0	deg W	
Antenna Size	4.6	0.6	m	
Uplink Power/Carrier	13.6		dBW	
Azimuth	207.69	142.81	deg	
Elevation	38.78	36.56	deg	
Link Summary				
U/L Power Den	-61.9	dBW/Hz	Trans B/W	100.00%
D/L EIRP Den	-19.9	dBW/Hz	Trans Pwr	100.00%
U/L Avail 99.98%	D/L Avail 99.96 %		Total Link Avail	99.94%

Table 7A - SouthWest Beam Link Analysis, 0.6m Remote Terminal in Rain Zone B

Satellite Parameters				
Satellite	CAI	Transponder IPBO	0.0	dB
Orbital Location	93 deg WL	Transponder OPBO	0.0	dB
SFD	-88 dBW/m2	Transponder B/W	36.0	MHz
D/L Beam Type	SouthWest	Transponder G/T	12.0	dB/K
Link Requirements				
Link Availability	99.6%	Carrier Type	Dig TV	
Channel bandwidth	36 MHz	Modulation Type	QPSK	
Required C/No	82.4 dBHz	Information Rate	38878.0	kbps
Required Eb/No	6.5 dB	FEC Rate	3/4	

Uplink Analysis	Clear sky	Rain Up	Rain Down	Units
Frequency	28.75	28.75	28.75	GHz
Uplink E/S EIRP	74.6	74.6	74.6	dBW
Path Loss	-213.3	-213.3	-213.3	dB
Atmospheric Loss	0.0	0.0	0.0	dB
Rain Fade Loss	0.0	-6.9	0.0	dB
Satellite G/T	12.0	12.0	12.0	dB/K
Uplink C/N	26.3	19.4	26.3	dB
Downlink Analysis				
Frequency	18.95	18.95	18.95	GHz
Satellite EIRP	52.7	52.7	52.7	dBW
Output Backoff Per carrier	0.0	-2.3	0.0	dB
Path Loss	-209.4	-209.4	-209.4	dB
Rain Attenuation (Zone E)	0.0	0.0	-4.4	dB
Pointing Loss	-0.5	-0.5	-0.5	dB
E/S G/T	17.0	17.0	17.0	dB/K
Downlink C/N	12.8	10.5	8.4	dB
Interference				
Uplink Co-channel C/I	27.0	20.1	27.0	dB
Dnlink Co-channel C/I	27.0	24.7	27.0	dB
Uplink Adj Satellite C/I	21.0	14.1	21.0	dB
Dnlink Adj Satellite C/I	21.0	18.7	21.0	dB
Total C/I	17.0	11.8	17.0	dB
Overall Link				
C/Nd	12.8	10.5	8.4	dB
C/Nu	26.3	19.4	26.3	dB
C/I(total)	17.0	11.8	17.0	dB
C/(N+I) total	11.3	7.8	7.8	dB
Required C/N	6.8	6.8	6.8	dB
Margin	4.5	1.0	1.0	dB

Earth Station Parameters	Uplink	Downlink		
Site Latitude	41.0	34.0	deg N	
Site Longitude	74.0	118.0	deg W	
Antenna Size	4.6	0.6	m	
Uplink Power/Carrier	13.6		dBW	
Azimuth	207.69	140.18	deg	
Elevation	38.78	42.31	deg	
Link Summary				
U/L Power Den	-61.9	dBW/Hz	Trans B/W	100.00%
D/L EIRP Den	-19.9	dBW/Hz	Trans Pwr	100.00%
U/L Avail 99.98%	D/L Avail 99.83 %		Total Link Avail	99.81%

Table 7B - SouthWest Beam Link Analysis, 0.6m Remote Terminal in Rain Zone E

Satellite Parameters				
Satellite	CAI	Transponder IPBO	0.0	dB
Orbital Location	93 deg WL	Transponder OPBO	0.0	dB
SFD	-88 dBW/m2	Transponder B/W	36.0	MHz
D/L Beam Type	NorthWest	Transponder G/T	12.0	dB/K
Link Requirements				
Link Availability	99.6%	Carrier Type	Dig TV	
Channel bandwidth	36 MHz	Modulation Type	QPSK	
Required C/No	82.4 dBHz	Information Rate	38878.0	kbps
Required Eb/No	6.5 dB	FEC Rate	3/4	

Uplink Analysis	Clear sky	Rain Up	Rain Down	Units
Frequency	28.75	28.75	28.75	GHz
Uplink E/S EIRP	74.6	74.6	74.6	dBW
Path Loss	-213.3	-213.3	-213.3	dB
Atmospheric Loss	0.0	0.0	0.0	dB
Rain Fade Loss	0.0	-5.4	0.0	dB
Satellite G/T	12.0	12.0	12.0	dB/K
Uplink C/N	26.3	20.9	26.3	dB
Downlink Analysis				
Frequency	18.95	18.95	18.95	GHz
Satellite EIRP	51.2	51.2	51.2	dBW
Output Backoff Per carrier	0.0	-1.6	0.0	dB
Path Loss	-209.6	-209.6	-209.6	dB
Rain Attenuation (Zone E)	0.0	0.0	-2.7	dB
Pointing Loss	-0.5	-0.5	-0.5	dB
E/S G/T	17.0	17.0	17.0	dB/K
Downlink C/N	11.1	9.6	8.4	dB
Interference				
Uplink Co-channel C/I	27.0	21.6	27.0	dB
Dnlink Co-channel C/I	27.0	25.5	27.0	dB
Uplink Adj Satellite C/I	21.0	15.6	21.0	dB
Dnlink Adj Satellite C/I	21.0	19.4	21.0	dB
Total C/I	17.0	13.1	17.0	dB
Overall Link				
C/Nd	11.1	9.6	8.4	dB
C/Nu	26.3	20.9	26.3	dB
C/I(total)	17.0	13.1	17.0	dB
C/(N+I) total	10.0	7.8	7.8	dB
Required C/N	6.8	6.8	6.8	dB
Margin	3.2	1.0	1.0	dB

Earth Station Parameters	Uplink	Downlink		
Site Latitude	41.0	48.0	deg N	
Site Longitude	74.0	111.0	deg W	
Antenna Size	4.6	0.6	m	
Uplink Power/Carrier	13.6		dBW	
Azimuth	207.69	156.38	deg	
Elevation	38.78	32.19	deg	

Link Summary				
U/L Power Den	-61.9	dBW/Hz	Trans B/W	100.00%
D/L EIRP Den	-21.4	dBW/Hz	Trans Pwr	100.00%
U/L Avail 99.97%	D/L Avail 99.43 %		Total Link Avail	99.40%

Table 8A - NorthWest Beam Link Analysis, 0.6m Remote Terminal in Rain Zone E

Satellite Parameters				
Satellite	CAI	Transponder IPBO	0.0	dB
Orbital Location	93 deg WL	Transponder OPBO	0.0	dB
SFD	-88 dBW/m2	Transponder B/W	36.0	MHz
D/L Beam Type	NorthWest	Transponder G/T	12.0	dB/K
Link Requirements				
Link Availability	99.6%	Carrier Type	Dig TV	
Channel bandwidth	36 MHz	Modulation Type	QPSK	
Required C/No	82.4 dBHz	Information Rate	38878.0	kbps
Required Eb/No	6.5 dB	FEC Rate	3/4	

Uplink Analysis	Clear sky	Rain Up	Rain Down	Units
Frequency	28.75	28.75	28.75	GHz
Uplink E/S EIRP	74.6	74.6	74.6	dBW
Path Loss	-213.3	-213.3	-213.3	dB
Atmospheric Loss	0.0	0.0	0.0	dB
Rain Fade Loss	0.0	-5.3	0.0	dB
Satellite G/T	12.0	12.0	12.0	dB/K
Uplink C/N	26.3	21.0	26.3	dB
Downlink Analysis				
Frequency	18.95	18.95	18.95	GHz
Satellite EIRP	51.2	51.2	51.2	dBW
Output Backoff Per carrier	0.0	-1.5	0.0	dB
Path Loss	-209.7	-209.7	-209.7	dB
Rain Attenuation (Zone D)	0.0	0.0	-2.6	dB
Pointing Loss	-0.5	-0.5	-0.5	dB
E/S G/T	17.0	17.0	17.0	dB/K
Downlink C/N	11.0	9.5	8.4	dB
Interference				
Uplink Co-channel C/I	27.0	21.7	27.0	dB
Dnlink Co-channel C/I	27.0	25.5	27.0	dB
Uplink Adj Satellite C/I	21.0	15.7	21.0	dB
Dnlink Adj Satellite C/I	21.0	19.5	21.0	dB
Total C/I	17.0	13.2	17.0	dB
Overall Link				
C/Nd	11.0	9.5	8.4	dB
C/Nu	26.3	21.0	26.3	dB
C/I(total)	17.0	13.2	17.0	dB
C/(N+I) total	10.0	7.8	7.8	dB
Required C/N	6.8	6.8	6.8	dB
Margin	3.2	1.0	1.0	dB

Earth Station Parameters	Uplink	Downlink		
Site Latitude	41.0	46.0	deg N	
Site Longitude	74.0	122.0	deg W	
Antenna Size	4.6	0.6	m	
Uplink Power/Carrier	13.6		dBW	
Azimuth	207.69	142.38	deg	
Elevation	38.78	29.90	deg	

Link Summary				
U/L Power Den	-61.9	dBW/Hz	Trans B/W	100.00%
D/L EIRP Den	-21.4	dBW/Hz	Trans Pwr	100.00%
U/L Avail 99.97%	D/L Avail 99.53 %		Total Link Avail	99.50%

Table 8B - NorthWest Beam Link Analysis, 0.6m Remote Terminal in Rain Zone D

availability of 99.94% could be achieved (less than 1 minute per day). This availability is the result of a satellite EIRP of 52.7 dBW and a receiving antenna of 0.6m (23.5 inches) with a station G/T of 17 dB/K. Clearly the very low rate in Zone B covering Arizona and New Mexico are the principle reasons for the very good availability.

For that portion of the covered area located in rain zone E (22mm/hour), the analysis in Table 7B indicates a total link availability of 99.81% could be achieved (approximately 2.7 minutes per day). This availability is the result of a satellite EIRP of 54.3 dBW and a receiving antenna of 0.6m (23.5 inches) with a station G/T of 17dB/K. Again, the low rain rate in Los Angeles is a major reason for the good availability.

3.7.5 Northwest Beam Performance.

The covered area in Pacific Northwest and Northcentral US is located in rain zones D, B and E. The analysis in Table 8A is for rain zone E (22mm/hour) and indicates that a total link availability of 99.4% could be achieved (approximately 8.6 minutes per day). This availability is the result of a satellite EIRP of 51.2 dBW and a receiving antenna of 0.6m (23.5 inches) with a station G/T of 17 dB/K.

For that portion of the covered area located in rain zone D (19mm/Hour), the analysis in Table 8B indicates a total link availability of 99.5% could be achieved (approximately 7 minutes per day). This availability is the result of a satellite EIRP of 51.2 dBW and a receiving antenna of 0.6m (23.5 inches) with a station G/T of 17dB/K. The Northwest Beam covers a very large area, approximately 4.7 square degrees. This results in a fairly low beam gain 36.1 dBi and the resulting low EIRP. It is possible that during the design phase of this project, this beam could be assigned a 90 watt amplifier, significantly improving its performance.

3.8 Maximum Power Flux Density Analysis.

The power flux density limits for space stations are specified in Section 25.208 of the Commissions Rules and Regulations. This analysis demonstrates that the CAI satellite would be in compliance with those rules using multiplexed digital TV for all five beams described. The compliance described above assumes the limits are those specified for Ku-Band as follows:

a) -150 dBW/m^2 in any 4 KHz band for angles of arrival between 0° and 5° above the horizon;

b) $-150 + (d - 5) / 2$ dBW/m^2 for any 4KHz band for angles of arrival between 5° and 25° above the horizon; and

c) -140 dBW/m^2 in any 4 KHz band for angles of arrival between 25° and 90° above the horizon.

3.8.1 Demonstrating Compliance with Power Flux Limits for CAI's Beams.

Using the antenna coverages shown in Figure 1, and the values computed for beam center maximum EIRPs as shown in Table 3, it can be seen that the Southeast Beam meets the Commission's 25.208 regulations for Ku-Band emissions although it is acknowledged that those limits may or may not apply to the Ka-Band frequencies used by this satellite.

The power flux density at the earth's surface for each beam is calculated by the method which involves computing the path loss (in dB) from the satellite to the earth's surface and adding to that the gain of a 1m^2 antenna (in dB). This value is then subtracted from the maximum EIRP of the satellite to determine the boresite maximum flux density. Since CAI's satellite will be all digital, no analog cases need be considered.

3.8.1.1 For the Southeast Beam.

Maximum EIRP in Southeast Beam (dBW)	54.1
Path Loss to Beam Coverage (dB)	-209.4
Gain of $1m^2$ Antenna (dB)	47.0
Bandwidth of Digital Signal (dB)	-74.3
Conversion to 4kHz bandwidth (dB)	36.0
Maximum Power Flux Density (dBW/m^2 per 4kHz)	-146.6

Since the boresite of Southeast beam is above 30°, the allowable flux density is -140dBWtm2 for this beam. The Southeast Beam calculation is 6.6 dB above the required value.

3.8.1.2 For the Northeast Beam.

Maximum EIRP in Northeast Beam (dBW)	54.6
Path Loss to Beam Coverage (dB)	-209.7
Gain of $1m^2$ Antenna (dB)	47.0
Bandwidth of Digital Signal (dB)	-74.3
Conversion to 4kHz bandwidth (dB)	36.0
Maximum Power Flux Density (dBW/m^2 per 4kHz)	-146.4

Since the boresite of Northeast beam is above 30°, the allowable flux density is -140 dBW/m^2 for this beam. The Northeast Beam calculation is 6.4dB above the required value.

3.8.1.3 For the Texas/Oklahoma Beam.

Maximum EIRP in Texas/Oklahoma Beam (dBW)	54.25
Path Loss to Beam Coverage (dB)	-209.4
Gain of $1m^2$ Antenna (dB)	47.0
Bandwidth of Digital Signal (dB)	-74.3
Conversion to 4kHz bandwidth (dB)	36.0
Maximum Power Flux Density (dBW/m^2 per 4kHz)	-146.45

Since the boresite of the Texas/Oklahoma beam is above 30°, the allowable flux density is -140 dBW/m^2 for this beam. The Texas/Oklahoma Beam calculation is 6.45 dB above the required value.

3.8.1.4 For the Southwest Beam.

Maximum EIRP in Southwest Beam (dBW)	52.65
Path Loss to Beam Coverage (dB)	-209.4
Gain of $1m^2$ Antenna (dB)	47.0
Bandwidth of Digital Signal (dB)	-74.3
Conversion to 4kHz bandwidth (dB)	36.0
Maximum Power Flux Density (dBW/m^2 per 4kHz)	-148.05

Since the boresite of the Southwest beam is above 30°, the allowable flux density is -140 dBW/m^2 for that beam. The Southwest Beam calculation above is 8dB above the required value.

3.8.1.5 For the Northwest Beam.

Maximum EIRP in Northwest Beam (dBW)	51.12
Path Loss to Beam Coverage (dB)	-209.6
Gain of $1m^2$ Antenna (dB)	47.0
Bandwidth of Digital Signal (dB)	-74.3
Conversion to 4kHz bandwidth (dB)	36.0
Maximum Power Flux Density (dBW/m^2 per 4kHz)	-149.78

Since the boresite of the Northwest beam is above 30°, the allowable flux density is -140 dBW/m^2 for this beam. The Northwest Beam calculation shown above results in a value 9.8dB above the required value and the system is in compliance.

3.8.1.6 Flux Density Beam Summary

In summary, the power flux density for each of the CAI beams is as follows:

Southeast Beam - Digital TV PFD = -146.6dBW/m^2/4KHz

Northeast Beam - Digital TV PFD = -146.4dBW/m^2/4KHz

Texas/Oklahoma Beam - Digital TV PFD = -146.45dBW/m^2/4KHz

Southwest Beam - Digital TV PFD = -148.05dBW/m^2/4KHz

Northwest Beam - Digital TV PFD = -149.78dBW/m^2/4KHz

All of these values are consistent with Section 25.208 of the Commission's rules concerning power flux density.

3.9 Interference Analysis.

3.9.1 Frequency Reuse Interference.

At this time, CAI does not plan to reuse the frequency bands described in this application. As discussed above, depending on the outcome of the Commission's forthcoming 28 GHz Band Satellite Report and Order, CAI may modify its band plan to satisfy any frequency reuse requirements adopted by the FCC.

3.9.2 Cross Polarization Interference.

The cross-polarization between orthogonal transmissions at the same frequency will be 30dB or greater. As the transmissions will be of the same power level, the 30dB isolation will be sufficient to prevent harmful interference between CAI's own transmissions.

3.9.3 Adjacent Satellite Interference.

CAI assumes a 2-degree spacing environment and will examine the potential interference that would arise if a satellite similar to the "SpaceWay" satellite proposed by Hughes were located at 101° WL. We also examine the potential interference that would arise if a satellite similar to the "CyberStar" satellite proposed by Loral were spaced two degrees away.

The underlying assumptions regarding maximum uplink power density and minimum uplink EIRP that are required to compute the uplink carrier-to-interference ratio [(C/I)up] are shown in Table 9 for the three systems. Similarly, the underlying assumptions concerning maximum downlink EIRP density and minimum downlink EIRP needed to compute the downlink carrier-to-interference [(C/I)down] are shown in Table 10.

The results of the CAI interference assessment are summarized in Table 11. The calculations assume that all transmit and receive stations meet the sidelobe performance objectives currently required for Ku-Band antennas, namely that they satisfy a sidelobe envelope of [29 - 25 log ϕ]

As Table 11 indicates, the mutual interference between the three satellites is generally within acceptable limits. It may, however, be necessary to rely upon some degree of beam or polarization isolation between closely spaced satellites which employ widely different EIRP densities, or to coordinate frequency assignments.

Table 9 - Uplink Interference Assumptions

System/Carrier	Bwo MHz	Max Uplink Power dBW	Max Power Density dBW/Hz	Min Uplink EIRP dBW
Spaceway Spot Beam 384 kbps	0.50	-5.2	-62.2	34.2
Spaceway 3° Beam 384 kbps	0.50	-5.2	-62.2	43.1
CyberStar Region 5 384 kbps	0.38	0.5	-55.3	44.0
CAI 38.9 Mbps TV/PSK	36.00	13.6	-61.9	74.6

Table 10 - Downlink Interference Assumptions						
System/Carrier	BW MHz	Max Downlink EIRP dBW	Max Dn EIRP Density dBW/Hz	Min Downlink EIRP dBW	Min EIRP Density dBW/Hz	Receive E/S Gain dBi
Spaceway SpotBeam 92 Mbps	120	59.0	-21.8	54.0	-26.8	43.0
Spaceway 3° Beam 92 Mbps	120	52.3	-28.5	47.3	-33.5	51.8
CyberStar Region 5 92Mbps	91.20	63.2	-16.4	63.2	-16.4	41.0
CAI 38.9 Mbps TV/PSK	36.00	57.1	-18.5	54.1	-21.5	43.2

Table 11 - Adjacent Satellite C/I for Three Proposed With 2° Spacings			
"Interfering" System	"Wanted" System	(C/I) up dB	(C/I) down dB
CAI	Spaceway Spot	17.7	13.6
CAI	Spaceway 3°	26.5	15.7
CAI	CyberStar	28.6	22.0
Spaceway Spot	CAI	39.7	22.0
Spaceway 3°	CAI	39.7	28.7
CyberStar	CAI	32.8	16.7

EXHIBIT 1

CAI PROGRAM MILESTONES

PROGRAM MILESTONES

Event	Completion Date
Application Approval	January 1998
Spacecraft RFP Issued	January 1998
Spacecraft Contractor Selected	April 1998
Preliminary Spacecraft Construction Go Ahead (Long Lead Time Items)	April 1998
Spacecraft Construction Commences	May 1998
Spacecraft Construction Completed	May 1999
Spacecraft Launched	July 1999
Spacecraft in Service	November 1999

EXHIBIT 2

CAI ESTIMATED PROGRAM COSTS

ESTIMATED PROGRAM COSTS

Requirement	Estimated Cost
Spacecraft Construction	$150.0 Million
Launch Vehicle Cost	$100.0 Million
Launch Insurance Premium	$30.0 Million
TT&C Construction Cost	$4.0 Million
TT&C Operations Cost (First Year)	$1.5 Million
First Year Operating Cost	$7.0 Million
	$292.5 Million

EXHIBIT 3

CAI LEGAL QUALIFICATIONS

FCC 430

Federal Communications Commission
Washington, DC 20554

STAMP & RETURN

Approved by OMB
3060-0105

RECEIVED
MAR 26 '97
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

LICENSEE QUALIFICATION REPORT

See reverse for public burden estimate

INSTRUCTIONS:

A. The "Filer" of this report is defined to include: (1) An applicant, where this report is submitted in connection with applications for common carrier and satellite radio authority as required for such applications; or (2) A licensee or permittee, where this report is required by the Commission's Rules to be submitted on an annual basis.

B. Submit an original and one copy (sign original only) to the Federal Communications Commission, Washington, DC 20554. If more than one radio service is listed in Item 6, submit an additional copy for each such additional service. If this report is being submitted in connection with an application for radio authority, attach it to that application.

C. Do not submit a fee with this report.

1. Business Name and Address (Number, Street, State and ZIP Code) of Filer's Principal Office	2. (Area Code) Telephone Number
CAI Wireless Systems, Inc. 18 Corporate Woods Boulevard, Third Floor Albany, NY 12211	(518) 462-2632
	3. If this report supersedes a previously filed report, specify its date April 25, 1996
4. Filer is (check one): ☐ Individual ☐ Partnership ☒ Corporation ☐ Other (Specify):	5. Under the laws of what State (or other jurisdiction) is the Filer organized? Connecticut

6. List the common carrier and satellite radio services in which Filer has applied or is a current licensee or permittee:

Multipoint Distribution Service, Domestic Fixed-Satellite Service

7(a) Has the Filer or any party to this application had any FCC station license or permit revoked or had any application for permit, license or renewal denied by this Commission? *If "YES", attach as Exhibit I a statement giving call sign and file number of license or permit revoked and relating circumstances.*	☐ YES	☒ NO
(b) Has any court finally adjudged the Filer, or any person directly or indirectly controlling the Filer, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement, or other means of unfair methods of competition? *If "YES", attach as Exhibit II a statement relating the facts.*	☐ YES	☒ NO
(c) Has the Filer, or any party to this application, or any person directly or indirectly controlling the Filer ever been convicted of a felony by any state or Federal court? *If "YES", attach as Exhibit III a statement relating the facts.*	☐ YES	☒ NO
(d) Is the Filer, or any person directly or indirectly controlling the Filer, presently a party in any matter referred to in Items 7(b) and 7(c)? *If "YES", attach as Exhibit IV a statement relating the facts.*	☐ YES	☒ NO
8. Is the Filer, directly or indirectly, through stock ownership, contract or otherwise, currently interested in the ownership or control of any other radio stations licensed by the Commission? *If "YES", submit as Exhibit V the name of each such licensee and the licensee's relation to the Filer.* See attached Exhibit V	☒ YES	☐ NO

If Filer is an individual (sole proprietorship) or partnership, answer the following and Item 11: N/A

9(a) Full Legal Name and Residential Address (Number, Street, State and ZIP Code) of Individual or Partners:	(b) Is Individual or each member of a partnership a citizen of the United States?	☐ YES	☐ NO
	(c) Is Individual or any member of a partnership a representative of an alien or of a foreign government?	☐ YES	☐ NO

If Filer is a corporation, answer the following and Item 11:

10(a) Attach as Exhibit VI the names, addresses, and citizenship of those stockholders owning of record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries.

See attached Exhibit VI

(b) List below, or attach as Exhibit VII the names and addresses of the officers and directors of the Filer.

See attached Exhibit VII

(c) Is the Filer directly or indirectly controlled by any other corporation? ☐ YES ☒ NO

If "YES", attach as Exhibit VIII a statement (including organizational diagrams where appropriate) which fully and completely identifies the nature and extent of control. Include the following: (1) the address and primary business of the controlling corporation and any intermediate subsidiaries; (2) the names, addresses, and citizenship of those stockholders holding 10 percent or more of the controlling corporation's voting stock; (3) the approximate percentage of total voting stock held by each such stockholder; and (4) the names and addresses of the president and directors of the controlling corporation.

(d) Is any officer or director of the Filer an alien? ☐ YES ☒ NO

(e) Is more than one-fifth of the capital stock of the Filer owned of record or voted by aliens or their representatives, or by a foreign government or representative(s) thereof, or by a corporation organized under the laws of a foreign country? ☐ YES ☒ NO

(f) Is the Filer directly or indirectly controlled: (1) by any other corporation of which any officer or more than one-fourth of the directors are aliens, or (2) by any foreign corporation or corporation of which more than one-fourth of the capital stock is owned or voted by aliens or their representatives, or by a foreign government or representatives thereof. ☐ YES ☒ NO

(g) If any answer to questions (d), (e) or (f) is "YES", attach as Exhibit IX a statement identifying the aliens or foreign entities, their nationality, their relationship to the Filer, and the percentage of stock they own or vote.

11. CERTIFICATION

This report constitutes a material part of any application which cross-references it, and all statements made in the attached exhibits are a material part thereof. The ownership information contained in this report does not constitute an application for, or Commission approval of, any transfer of control or assignment of radio facilities. The undersigned, individually and for the Filer, hereby certifies that the statements made herein are true, complete and correct to the best of the Filer's knowledge and belief, and are made in good faith. The undersigned, individually and for the Filer, certifies that neither the applicant nor any other party to the application is subject to a denial of Federal benefits, that includes FCC benefits, pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance.

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(A)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

Filer (must correspond with that shown in Item 1)	Typed or Printed Name	
CAI Wireless Systems, Inc.	Gerald Stevens-Kittner	
Signature G. Stevens-Kittner	Title Senior Vice President-Spectrum Management	Date 3/21/97

NOTICE TO INDIVIDUALS REQUIRED BY THE PRIVACY ACT OF 1974 AND THE PAPERWORK REDUCTION ACT OF 1995

The solicitation of personal information requested in this form is to determine if you are qualified to become or remain a licensee in common carrier or satellite radio service pursuant to the Communications Act of 1934, as amended. No authorization can be granted unless all information requested is provided. Your response is required to obtain the requested authorization or retain an authorization.

Public reporting burden for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate, or any other aspect of this collection of information, including suggestions for reducing the burden to Federal Communications Commission, Records Management Branch, Washington, DC 20554, Paperwork Reduction Project (3060-0105), or via the Internet to dconway@fcc.gov. DO NOT SEND COMPLETED FORMS TO THIS ADDRESS. Individuals are not required to respond to a collection of information unless it displays a currently valid OMB control number.

EXHIBIT V

In response to Item 8, Page 1 of FCC Form 430, CAI Wireless Systems, Inc. either owns (in some cases, subject to prior FCC approval), owns a majority interest in a company that owns (in some cases, subject to prior FCC approval), has an option to purchase, and/or has a channel capacity lease interest in the following authorized ITFS and MMDS channels:[1]

Washington, District of Columbia

BTA Authorization

ITFS A1-A4 - WDT-881

ITFS C4 - WLX-235

ITFS C1-C4 - WHB-652

ITFS D1-D4 - WHG-442

MMDS F1-F4 - WHT659

ITFS G1-G4 - WHR-461

MDS 1 - WOI93

MDS H1 - WNEY445

MDS H2 - WNEK840

MDS H3 - WHJ920

Hartford, Connecticut

BTA Authorization

ITFS A3-A4 - WLX-531

ITFS B1-B4 - WLX-569

ITFS C1-C4 - WLX-572

ITFS D1-D2 - WNC-321

ITFS D3-D4 - WLX-831

MMDS F1-F4 - WHT672

MDS H2 - WNTG352

MDS 2A - KNSC257

[1] The market designations are for grouping purposes only and are not necessarily indicative of the community of licenses.

New Haven, Connecticut

BTA Authorization

MDS 2A - KNSC263

New London, Connecticut

BTA Authorization

MDS 2A - KNSC264

Dover, Delaware

BTA Authorization

MMDS F1-F3 - KNSC253

Portland, Maine

MDS H1 - WNTH587

MDS H3 - WNTH318

Baltimore, Maryland

BTA Authorization

ITFS A1-A4 - WNC-708

ITFS B1-B4 - WHR-807

ITFS C1-C4 - WLX-789

ITFS D1-D4 - WHR-917

MMDS E1-E4 - WHT630

MMDS F1-F4 - WHT631

ITFS G1-G2 - WLX-790

ITFS G3-G4 - WLX-787

MDS 2 - WHT571

MDS H1 - WNEK883

MDS H2 - KNSC517

MDS H3 - KNSC518

Hyannis, Massachusetts

BTA Authorization

MDS 2A - KNSC451

Boston, Massachusetts

BTA Authorization

ITFS A1-A2 - KQT-47

ITFS B1-B4 - KYP-23

ITFS C1 - WHR-758

ITFS C2-C4 - WBB-421

ITFS D1-D4 - KVQ-24

MMDS E1-E4 - WMI863, WMI863A (Two-way)

ITFS F1-F4 - KQT-48; KMA-57

ITFS G1-G4 - WAL-20; KLC-85

MDS 1 - WSL33, WSL33A (Two-way)

MDS H1 - WNTB229

MDS H2 - WHJ868

MDS H3 - WNEK864

Pittsfield, Massachusetts

BTA Authorization

MDS 2A - KNSC551

Springfield, Massachusetts

BTA Authorization

MMDS E1-E4 - WLK225

MDS2A - KNSC449

Worcester, Massachusetts

BTA Authorization

MMDS E1-E4 - WMH752

MMDS F1-F4 - WMI893

MDS 2A - KNSC452

Manchester, New Hampshire

BTA Authorization

MDS 2A - KNSC450

Albany, New York

BTA Authorization

ITFS A1-A4 - WHR-729

ITFS B1-B4 - WHR-930

ITFS C1-C4 - WHR-586

ITFS D1-D4 - WHR-885

MMDS E1-E4 - WHT750

MMDS F1-F4 - WHT751

ITFS G1-G4 - WHR-886

MDS 2 - WHI966

MDS H1 - WNTA920

MDS H2 - WNTA389

MDS H3 - WNEZ721

Northern New Jersey

ITFS D1-D4 - WHR-872

ITFS G1-G4 - WHR-821, WHR-822

MDS 1 - WCU573

Buffalo, New York

BTA Authorization

ITFS A1-A2 - WLX-584

ITFS A3-A4 - WNC-353

ITFS B1-B4 - WNC-435

ITFS C1-C4 - WNC-202

ITFS D1-D4 - WNC-338

MMDS E1-E4 - WHT665

MMDS F1-F4 -KNSC579

ITFS G1 - WNC-239

ITFS G2-G4 - WLX-770

MDS 1 - WMY428

MDS 2 - WMY429

MDS H2 - WNEK802

Glen Falls, New York

BTA Authorization

MMDS F1-F4 - KNSC255

Ithaca, New York

BTA Authorization

MDS 2A - KNSC259

Long Island, New York

ITFS A1-A4 - KNZ-67

ITFS B1-B4 - KNZ-68

ITFS D1-D2 - KNU-43

ITFS E1-E4 - KNZ-65

ITFS G1-G4 - WHR-845

MDS 1 - WJM64

MDS H3 - WCX57

New York, New York

BTA Authorization

ITFS B1-B4 - KNZ-69; KZE-20; WHR-691

ITFS C1 - WGM-95

ITFS C2-C3 - WHR-829

ITFS C4 - WHR-828

ITFS D1-D4 - WHR-520

MMDS E1-E4 - WLR500

ITFS F1-F4 - KVS-31; KNZ-70

ITFS G1-G4 - KNZ-71

MDS 1 - WQQ79

MDS 2 - WLK227

MDS H1 - WNEL497

MDS H2 - WHJ897

MDS H3 - WNTQ214

Poughkeepsie, New York

BTA Authorization

MDS 2A - KNSC270

Utica, New York

BTA Authorization

MDS 2A - KNSC515

Rochester, New York

ITFS A1-A4 - WLX-613

ITFS B1-B4 - WLX-536

ITFS C1-C4 - WLX-753

ITFS D1-D4 - WLX-870

MMDS F1-F4 - WHT688

ITFS G1-G4 - WLX-543

MDS H1 - WNTE275

MDS H2 - WNTG719

MDS H3 - WNTD891

Syracuse, New York

BTA Authorization

ITFS A1-A4 - WNC-472

ITFS C1-C4 - WLX-929

ITFS D1-D4 - WLX-682

ITFS G1-G4 - WLX-840

MDS 1 - WHC998

MDS 2A - KNSC283

Charlotte, North Carolina

BTA Authorization

ITFS A1-A4 - WHR-535

MDS 1 - WGW715

MDS 2A - KNSC586

Greensboro, North Carolina

MDS 1 - WFY738

Winston-Salem, North Carolina

MDS 1 - WMH664

MDS 2A - WMH668

Philadelphia, Pennsylvania

ITFS A1-A2 - WAU-29

ITFS A3-A4 - WLX-824

ITFS B1-B2 - WLX-578

ITFS B3-B4 - WLX-566

ITFS C1-C2 - WLX-822

ITFS C3-C4 - WLX-825

ITFS D1-D4 - WLX-823

MMDS E1-E4 - WHT643

MMDS F1-F4 - WHT644

ITFS G1-G4 - WHR-527

MDS H1 - WNEY590

MDS H2 - WNET336

MDS 1 - WPE97

Pittsburgh, Pennsylvania

BTA Authorization

ITFS B1-B4 - WHR-525

ITFS C1-C4 - WNC-484

MMDS E1-E4 - WHT645

MMDS F1-F4 - WHT646

ITFS G1-G4 - WLX-537

MDS 1 - WPF48

MDS H1 - KNSC453

MDS H3 - WNTI200

Providence, Rhode Island

BTA Authorization

ITFS A1-A4 - WNC-521

ITFS B1-B4 - WLX-690

ITFS D1-D4 - WHR-971

MMDS E1-E4 - WLW859

MMDS F1-F4 - WLK212

MDS 1 - KNV65

MDS H1 - WNTI210

MDS H2 - KNSC552

MDS H3 - WNTI314

Norfolk/Virginia Beach, Virginia

ITFS A1-A2 - WHF-350

ITFS A3-A4 - WHR-941

ITFS B1-B2 - WNC-681

ITFS B3-B4 - WLX-256

ITFS C1-C4 - WLX-255

ITFS D1-D4 - WHR-526

MMDS E1-E4 - WHT729

MMDS F1-F4 - WHT730

ITFS G1-G4 - WHR-940

MDS 1 - KNSC266

MDS H1 - WNTB576

MDS H2 - WNTB962

MDS H3 - WNTB262

CAI Wireless Systems, Inc. has a majority interest in CS Wireless Systems, Inc. CS Wireless Systems, Inc. either owns (in some cases, subject to prior FCC approval), has an option to purchase, and/or has a channel capacity lease interest in the following authorized ITFS and MMDS channels,

Bakersfield, California

BTA Authorization

ITFS A2-A4 - WHR-797

ITFS B1-B4 - WLX-345

ITFS C1-C4 - WLX-372

ITFS D1-D4 - WLX-550

MMDS E1-E4 - WHT584

MMDS F1-F4 - WHT585

ITFS G1-G4 - WLX-381

MDS 1 - WMH877

MDS 2A - WMI942

MDS H1-H2 - WNTF473

MDS H3 - WNTF312

Stockton/Modesto, California

BTA Authorization

ITFS A1-A4 - WGV-750

ITFS B1 - WHR-656

ITFS C2-C4 - WHR-848

ITFS D1-D4 - WGV-751

MMDS E1-E4 - WGW513

MMDS F1-F4 - WHT786

ITFS G1-G4 - WHR-474

MDS H1 - WNTJ742

MDS H2 - WNTJ715

MDS H3 - WNTJ756

Battle Creek, Michigan

MMDS F1-F4 - WLK-260

Grand Rapids/Moline, Michigan

ITFS A1-A4 - WLK-981

ITFS B1-B4 - WNC-290

ITFS C1-C4 - WNC-483

ITFS D1-D4 - WNC-359

Minneapolis, Minnesota

ITFS A1-A4 - WLX-299

ITFS B1-B4 - WHR-497

ITFS C1-C4 - WHR-636

MMDS E1-E4 - WHT-677

MMDS F1-F4 - WHT-678

MDS H1 - WNEY683

MDS H2 - WNEZ819

MDS H3 - WNTA934

MDS 1 - WPE99

MDS 2 - WCU552

Maysville, Missouri

ITFS A1-A4 - WLX-626

ITFS B1-B4 - WLX-842

ITFS C1-C4 - WLX-821

ITFS D1-D4 - WLX-868

ITFS G1-G4 - WLX-785

MDS 1 - WMX936

MDS H1 - WMX926

MDS H2 - WMX928

MDS H3 - WMK927

Sweet Springs, Missouri

ITFS A1-A4 - WLX-669

ITFS B1-B4 - WLX-606

ITFS C1-C4 - WLX-693

ITFS D1-D4 - WLX-658

ITFS G1-G4 - WLX-620

Napolean, Indiana

ITFS A1-A4 - WNC-277

ITFS B1-B4 - WNC-276

ITFS C1-C4 - WNC-278

ITFS D1-D4 - WNC-284

ITFS G1-G4 - WNC-283

Cleveland, Ohio

ITFS A1 - KNZ-60

ITFS A2-A4 - WAJ-20

ITFS B1-B4 - WAJ-20

ITFS C1-C4 - WAJ-20

ITFS D1-D4 - WNC-508

MMDS E1-E4 - WLK310

MMDS F1-F4 - WLK306

MDS 1 - WQQ66

MDS H2 - WHJ951

Atlanta, Georgia

BTA Authorization

MDS 2A - KNSC454

Louisville, Kentucky

BTA Authorization

MDS 2A - KNSC448

Rochester, Minnesota

ITFS A1-A4 - WLX-455

ITFS C1-C4 - WLX-469

ITFS D1-D4 - WLX-511

MDS H1-H3 - WNTJ817

Dayton, Ohio

ITFS A1-A4 - WHR-537

ITFS B1-B4 - WLX-573

ITFS C1-C4 - WHR-939

ITFS D1-D4 - WLX-568

MMDS E1-E4 - WHT713

MMDS F1-F4 - WHT714

ITFS G1-G4 - WLX-375

MDS 1 - WMX909

MDS H1 - WNTB420

MDS H2 - WNEZ725

MDS H3 - WNTB689

Dallas, Texas

ITFS A1-A2 - WNC-582

ITFS C1-C4 - KWU-30

ITFS D1-D4 - WLX-843

ITFS F1-F4 - KWU-30

ITFS G1-G3 - WHR-830

ITFS G4 - WHR-831

MDS H2 - WHJ873

MDS H3 - WNTD967

MDS 1 - WQQ65

MDS 2 - WHT564

Fort Worth, Texas

ITFS A1-A4 - WHR-506

ITFS B1-B4 - WLX-649

ITFS C1-C4 - WHR-883

ITFS E1-E4 - KWU-29

MMDS F1-F4 - WHT789

ITFS G1-G4 - WNC-823

MDS 1 - WJM75

MDS 2 - WFY900

San Antonio, Texas

ITFS A1-A4 - WLX-328

ITFS B1-B4 - WHR-920

ITFS C1-C4 - WLX-874

ITFS D1-D4 - WLX-248

MMDS E1-E4 - WHT693

MMDS F1-F4 - WHT694

ITFS G1-G4 - WLX-704

MDS H1 - WNTA693

MDS H2 - WNEY637

MDS H3 - WNEY637

MDS 2 - WFY852

Salt Lake City, Utah

ITFS A1-A4 - WLX-487

ITFS D1-D4 - WLX-667

MMDS E1-E4 - WLW775

MMDS F1-F4 - WHT692

MDS H1 - WNTB421

MDS H2 - WNTB690

MDS H3 - WNTB688

MDS 1 - KEW74

Adairsville, Georgia

ITFS A1-A4 - WLX-797

ITFS C1-C4 - WLX-766

ITFS D1-D4 - WLX-701

ITFS G1-G4 - WLX-765

Relay Stations

ITFS A1-A4 - WNC-414

ITFS C1-C4 - WNC-688

ITFS D1-D4 - WNC-665

ITFS G1-G4 - WNC-666

Powers Crossroads, Georgia

ITFS A1-A4 - WNC-390

ITFS B1-B4 - WLX-861

ITFS C1-C4 - WNC-389

ITFS D1-D4 - WLX-866

ITFS G1-G4 - WLX-795

Rutledge, Georgia

ITFS A1-A4 - WLX-784

ITFS B1-B4 - WLX-788

ITFS D1-D4 - WLX-856

ITFS G1-G4 - WLX-867

Effingham, Kansas

ITFS A1-A4 - WLX-473

ITFS B1-B4 - WLX-329

ITFS C1-C4 - WLX-339

IFTS D1-D4 - WLX-340

ITFS G1-G4 - WLX-360

MDS 1 - WMH876

Wellsville, Kansas

ITFS A1-A4 - WLX-330

ITFS B1-B4 - WLX-331

ITFS C1-C4 - WLX-327

ITFS D1-D4 - WLX-335

ITFS G1-G4 - WNC-431

READ INSTRUCTIONS CAREFULLY BEFORE PROCEEDING

(1) LOCKBOX # 358210

FEDERAL COMMUNICATIONS COMMISSION

REMITTANCE ADVICE

PAGE NO. 1 OF 1

1305

APPROVED BY OMB 3060-0589

SPECIAL USE

FCC USE ONLY

SECTION A - PAYER INFORMATION

(2) PAYER NAME (if paying by credit card, enter name exactly as it appears on your card)
Fisher Wayland Cooper Leader & Zaragoza L.L.P.

(3) TOTAL AMOUNT PAID (dollars and cents)
$ 425,225.00

(4) STREET ADDRESS LINE NO. 1
c/o Fisher Wayland:BDJ

(5) STREET ADDRESS LINE NO. 2
2001 Pennsylvania Avenue, N.W., Suite 400

ORIGINAL

Received

(6) CITY
Washington

(7) STATE
D.C.

(8) ZIP CODE
20006

(9) DAYTIME TELEPHONE NUMBER (Include area code)
(202) 659-3494

(10) COUNTRY CODE (if not in U.S.A.)

APR - 9 1998

Satellite Policy Branch
International Bureau

IF PAYER NAME THE AND APPLICANT NAME ARE DIFFERENT, COMPLETE SECTION B
IF MORE THAN ONE APPLICANT, USE CONTINUATION SHEETS (FORM 159-C)

SECTION B - APPLICANT INFORMATION

(11) APPLICANT NAME (if paying by credit card, enter name exactly as it appears on your card)
Pegasus Development Corporation

(12) STREET ADDRESS LINE NO. 1
5 Radnor Corporate Center, Suite 454

95 through 99-SAT-PLA-98
S2350-S2354

(13) STREET ADDRESS LINE NO. 2
100 Matsonford Road

(14) CITY
Radnor

(15) STATE
PA

(16) ZIP CODE
19087

(17) DAYTIME TELEPHONE NUMBER (Include area code)
(610) 341-0766

(18) COUNTRY CODE (if not in U.S.A.)

COMPLETE SECTION C FOR EACH SERVICE, IF MORE BOXES ARE NEEDED, USE CONTINUATION SHEETS (FORM 159-C)

SECTION C - PAYMENT INFORMATION

(19A) FCC CALL SIGN/OTHER ID	(20A) PAYMENT TYPE CODE (PTC)	(21A) QUANTITY	(22A) FEE DUE FOR (PTC) IN BLOCK 20A	FCC USE ONLY
New	B N Y	5	$ 85,045.00	

(23A) FCC CODE 1	(24A) FCC CODE 2

(19B) FCC CALL SIGN/OTHER ID	(20B) PAYMENT TYPE CODE (PTC)	(21B) QUANTITY	(22B) FEE DUE FOR (PTC) IN BLOCK 20B	FCC USE ONLY
			$	

(23B) FCC CODE 1	(24B) FCC CODE 2

(19C) FCC CALL SIGN/OTHER ID	(20C) PAYMENT TYPE CODE (PTC)	(21C) QUANTITY	(22C) FEE DUE FOR (PTC) IN BLOCK 20C	FCC USE ONLY
			$	

(23C) FCC CODE 1	(24C) FCC CODE 2

(19D) FCC CALL SIGN/OTHER ID	(20D) PAYMENT TYPE CODE (PTC)	(21D) QUANTITY	(22D) FEE DUE FOR (PTC) IN BLOCK 20D	FCC USE ONLY
			$	

(23D) FCC CODE 1	(24D) FCC CODE 2

SECTION D - TAXPAYER INFORMATION (REQUIRED)

EXHIBIT VI

No stockholders of CAI Wireless Systems, Inc. ("CAI") own and/or vote 10% or more of CAI's stock.

EXHIBIT VII

The names and addresses of the officers and directors of CAI Wireless Systems, Inc. are as follows:

Jared E. Abbruzzese
Chairman, Chief Executive Officer and
Director
18 Corporate Woods Blvd., Third Floor
Albany, NY 12211

John Prisco
President, Chief Operating Officer and
Director
18 Corporate Woods Blvd., Third Floor
Albany, NY 12211

George M. Williams
Chief Administrative Officer and
Corporate Analyst, Secretary and
Treasurer; Director
18 Corporate Woods Blvd., Third Floor
Albany, NY 12211

Timothy J. Santora
Executive Vice President,
Licensing and Leasing
18 Corporate Woods Blvd., Third Floor
Albany, NY 12211

James P. Ashman
Executive Vice President,
Chief Financial Officer; Director
18 Corporate Woods Blvd., Third Floor
Albany, NY 12211

Craig J. Kessler
Vice President and
Corporate Controller
18 Corporate Woods Blvd., Third Floor
Albany, NY 12211

Gerald Stevens-Kittner
Senior Vice President,
Spectrum Management
2101 Wilson Boulevard, Suite 100
Arlington, VA 22201

Bruce Kostreski
Senior Vice President, Engineering
2101 Wilson Boulevard, Suite 100
Arlington, VA 22201

Sabino Rodriguez, III
Assistant Secretary
4 Cob Drive
Westport, CT 06880

Arthur C. Belanger
Director
3 Bates Court
Williamsburg, VA 23188

Harold A. Bouton
Director
1831 Bobolink Lane
Charlotte, NC 28226

David M. Tallcott
Director
Three Loudonville East
E. Loudonville, NY 12111

Robert D. Happ
Director
20 Old Road
Weston, MA 02193

Alan Sonnenberg
Director
18 Corporate Woods Blvd., Third Floor
Albany, NY 12211

BORDER OF CHECK FACE AND ENDORSEMENT LINES ON BACK CONTAIN MICROPRINTING. MAGNIFY TO VERIFY ORIGINAL DOCUMENT.

CAI WIRELESS SYSTEMS, INC.
18 CORPORATE WOODS BLVD.
ALBANY, NY 12211
PH: 518-462-2632

FLEET BANK
LOUDONVILLE, NY 12211

29-1/213

011924

DATE	CHECK NO.	AMOUNT
06/24/97	011924	*****$87,515.00

EIGHTY-SEVEN THOUSAND FIVE HUNDRED FIFTEEN AND NO/100 U.S. DOLLARS

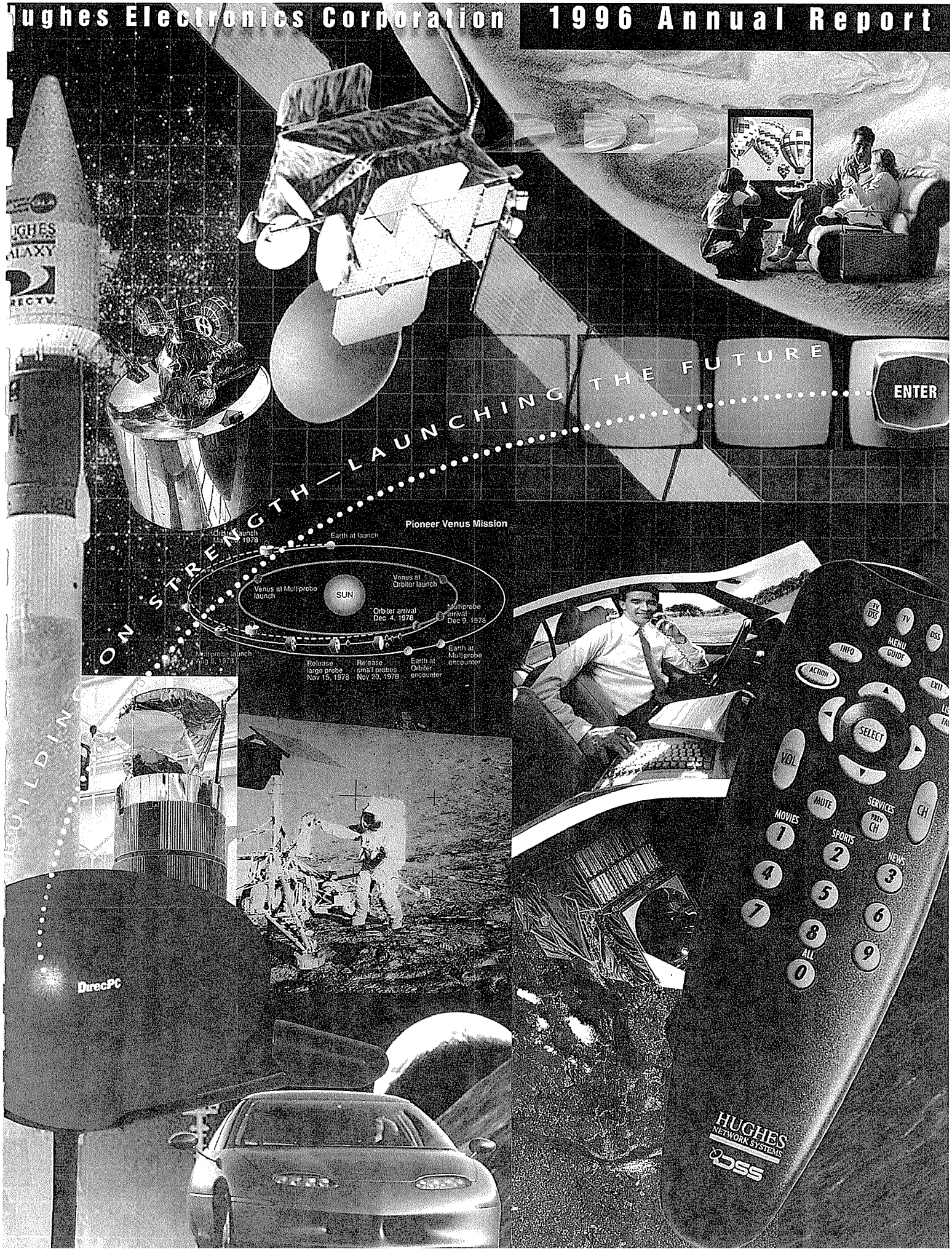
PAY TO THE ORDER OF

FEDERAL COMMUNICATIONS COMM
WASHINGTON, DC 20554

⑈011924⑈ ⑆021300019⑆ 93808 95619⑈

WARNING - THIS DOCUMENT HAS A SECURITY COLOR BACKGROUND ON FACE AND ORIGINAL DOCUMENT SECURITY SCREEN ON BACK.

Hughes Electronics Corporation 1996 Annual Report

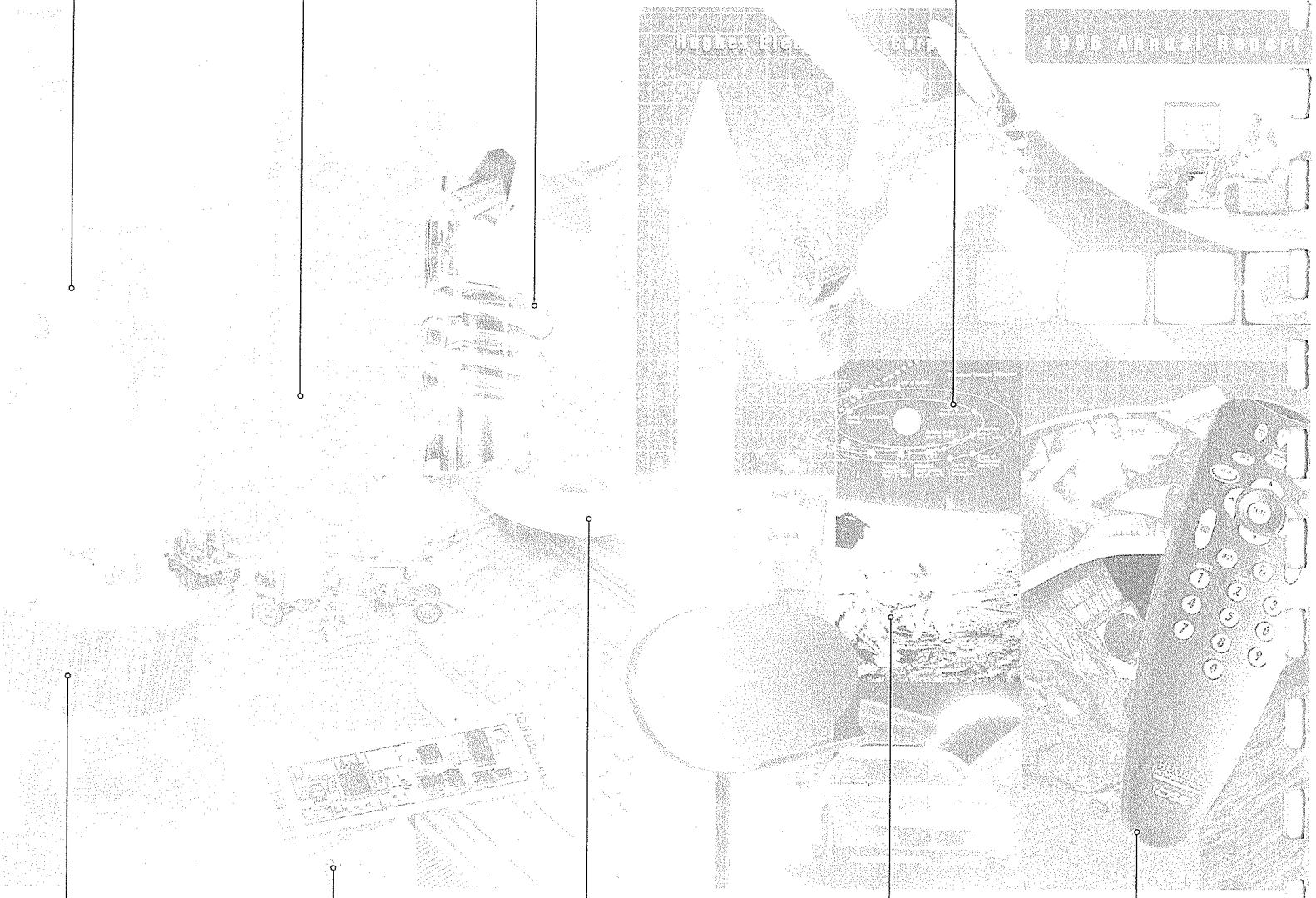


HOWARD HUGHES
Pioneer Howard Hughes founded Hughes Aircraft Company in 1932. Two years later he set his first aircraft speed record in the "H-1 racer." In 1938, the aviation pioneer and his crew were the first to fly non-stop around the world.

FALCON MISSILE
The world's first air-to-air, radar-guided missile was Hughes' Falcon. The company produced more than 50,000 Falcons between 1952 and 1963.

LASER
In 1960, Hughes scientists achieved the first successful operation of a ruby laser, a breakthrough hailed as one of this century's most important engineering achievements.

PIONEER VENUS
The first extensive mapping of Venus using radar was a major achievement of the Pioneer Venus space mission, which began in 1978. Hughes built the orbiting spacecraft and the probe that carried the instruments to collect data for the National Aeronautics & Space Administration.



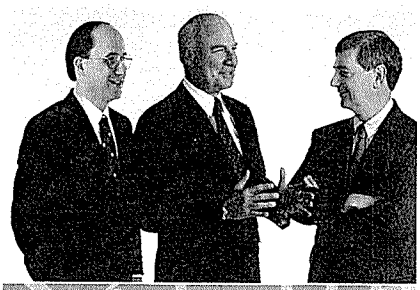
SYNCOM
Hughes launched the world's first synchronous satellite in 1963. Syncom transmitted the first high-quality voice message between two U.S. Navy ships on opposite sides of the Atlantic Ocean and paved the way for the commercial satellite communications industry.

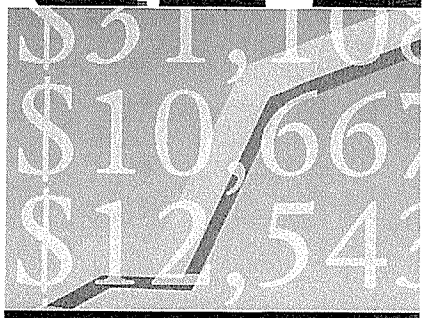
RADAR
The first tactical air-to-air fire-control radar, delivered in 1949 to the U.S. Air Force, was named the "Hughes E-1." This innovative new radar enabled a pilot to fire at a target he could not see.

GM SUNRAYCER
Hughes' advanced solar energy technologies were vital components of the GM Sunraycer, an innovative solar-powered electric General Motors vehicle that in 1987 won the grueling 1,950 mile World Solar Challenge race across Australia.

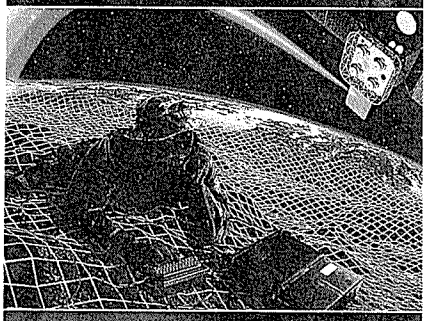
SURVEYOR 1
In 1966, Hughes' unmanned Surveyor 1 was the first spacecraft to make a controlled, soft landing on the moon. Hughes designed and built seven Surveyor spacecraft, which led the way for future manned landings.

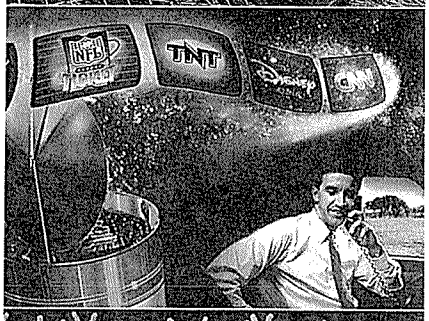
DIRECTV
Hughes launched DIRECTV®, the nation's first high-powered digital direct broadcast satellite television service, in 1994. Customers receive signals with the DSS® system, which features an 18-inch satellite dish, receiver unit and remote control.

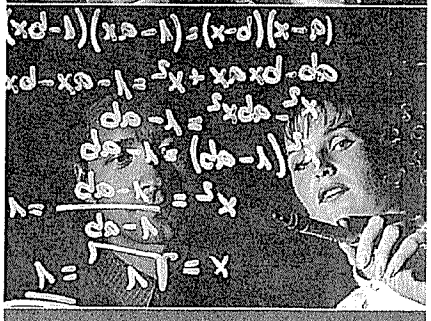




Hughes Electronics Corporation, a subsidiary of General Motors Corporation, designs, manufactures and markets advanced electronics equipment and services. The markets for the company's products and services are undergoing dramatic changes, and to remain a financial, market and technology leader, Hughes must change, too. This annual report, following the theme of Building on Strength – Launching the Future, reviews the strengths of Hughes Aircraft Company, Delco Electronics and the Telecommunications & Space companies, and outlines opportunities and plans for these operations.







MESSAGE TO SHAREHOLDERS

Building on Strength...LAUNCHING THE FUTURE

Most annual reports offer a look back – a survey of the year that was. For Hughes Electronics, this report marks a major change in our company. Not only does it outline a year of goals met and gains made; it also describes the substantial strengthening of our business segments and the unlocking of shareholder value expected from three significant transactions.

It's become a cliché to note the pace of change in our global economy. Yet if our competitive environment is teaching us any lessons at all, it is that it's not enough to lead the market of the moment. To stay on top, a company has to see over-the-horizon: to anticipate the changes and challenges ahead, to see – before others see them – not just obstacles but opportunities. That is the key reason Hughes Electronics made its decision to look beyond its success in today's markets, to restructure and refocus itself for the future.

"We look forward to a more focused participation in the Information Age with the excitement that comes from having both the technology and the services that satisfy market needs."

On January 16, 1997, GM, Hughes and Raytheon announced their plan, pending final government and shareholder approvals, to: 1) spin off Hughes Aircraft Company (HAC), after which it will merge with Raytheon; 2) transfer Delco Electronics to GM's Delphi Automotive Systems; and 3) recapitalize GM's Class H common stock – creating a new tracking stock linked to the performance of Hughes Electronics' telecommunications and space businesses.

That's the "what." As for the "why" behind the transactions, we must simply look to the competitive market around us. 1996 saw the continued post-Cold War consolidation of the defense sector, driven by more downward pressure on defense procurement that has cut the overall defense budget in half since the height of the 1980's buildup. A new wave of mega-mergers is redefining the meaning of critical mass, such that we believed the best future for HAC was in combination with another industry leader. HAC's merger with Raytheon offers our customers a stronger critical mass of programs, skills and investment that will be sustainable while enabling reduced costs. The merger should also offer GMH shareholders excellent value in the face of the defense industry's restructuring.

Just as the defense sector dictated the need for redefinition, the evolu-

left to right:

Charles H. Noski
Vice Chairman and
Chief Financial Officer

C. Michael Armstrong
Chairman of the Board and
Chief Executive Officer

Michael T. Smith
Vice Chairman

tion of the automotive electronics industry also dictated change. Customers' desire for systems rather than separate components created a natural alliance for Delco and Delphi – opportunities in combination that neither alone could seize. Delco/Delphi will possess capabilities unmatched in the automotive electronics industry, a single entity possessing the breadth and potential to deliver integrated systems at the lowest cost.

Finally, the transactions enable us to take our telecommunications and space businesses to a new level – a chance to bring significantly greater financial resources and a sharper focus of our management, talent and technology to the emerging markets for space and satellite communications. This is an important step as we work to realize our vision of a Wireless Expressway™ – an Information Skyway – using space and satellites to offer instant, affordable and ubiquitous delivery of data, voice and video.

We look forward to a more focused participation in the Information Age with the excitement that comes from having both the technology and the services that satisfy market needs – and a price performance that sets us apart.

- In satellites, we will introduce the most capable, powerful and versatile satellite family in the industry with the launch of our HS 702.
- In networks, we will appeal to a wider Internet user base as we continue to drive down the costs of Turbo Internet™, a satellite-based interactive Internet service that provides speeds 14 times more rapid than today's telephone lines.
- In our soon-to-be-completed merger with PanAmSat, we will expand our global capacity by more than 70% in the next couple of years as we bring needed communications infrastructure to a world evolving toward a single market.
- In DIRECTV®, we will introduce PC-based services that bring access to the Internet, DIRECTV programming, a menu of Web sites and multi-media magazines – all to a single dish serving both your television and personal computer.
- Internationally, Galaxy Latin America will expand its coverage to include all of the 90 million television households of Latin America and the Caribbean, while the expected launch within a year of DIRECTV Japan will take our direct-to-home service to a country that is only 4% cable-penetrated, yet is mature in its interest in entertainment, information and education.

"Using technology, talent and investment to lead in markets, to build new businesses, to create new value: that's what the new Hughes Electronics will be all about."

BUILDING ON STRENGTH...Launching the Future

For Hughes Electronics, 1996 marked a year of goals met and ground gained, paving the way for the transactions announced in January 1997.

AEROSPACE AND DEFENSE SYSTEMS:

For the year, Hughes Aircraft Company reported a nearly 7% increase in revenues, to $6.3 billion. Equally important, HAC maintained its double-digit margins, as well as a sizable $8.2 billion backlog in missiles, sensors and information systems and services. In the downsized defense procurement environment, HAC posted an impressive 77% win ratio for the competitions it entered. Finally, in the key area of international growth, 1996 saw an increase of 80% for international orders.

AUTOMOTIVE ELECTRONICS:

Delco Electronics ended 1996 retaining its industry lead in market share, while posting a 20% rise in international and non-GM North American Operations sales. A fourth-quarter

reorganization strengthened Delco to deal with a challenging competitive environment, making possible new steps toward rightsizing and structural cost reductions, accelerated technology introduction into GM's North American Operations, and a realignment of international operations to sharpen focus on profitable growth.

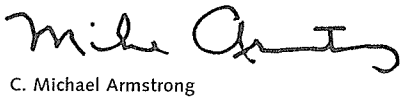
TELECOMMUNICATIONS AND SPACE:

As the fastest growing segment of Hughes Electronics, Telecommunications and Space posted a 33% growth rate in 1996 — with total revenues of $4.1 billion. Hughes Space and Communications increased revenues by 21%, Hughes Network Systems broke the $1 billion revenue threshold for the first time, while the PanAmSat merger announcement marked a major milestone on the path to a truly global communications service. DIRECTV in the United States, attained a subscriber base of 2.5 million in early 1997, making it equivalent in size to the nation's seventh largest cable television company.

Using technology, talent and investment to lead in markets, to build new businesses, to create new value: that's what the new Hughes Electronics will be all about. With more focus on our markets, with capital available for investment and with a team that has proven it makes a difference, our new dedicated company will give us more potential to create value.

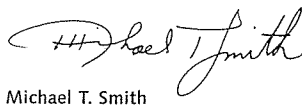
It is never easy to so significantly restructure a business that is succeeding. Employee lives are disrupted, customer relationships must be preserved, shareholders need to be assured and satisfied even as the need to do daily battle with the competition continues.

Yet, at each stage in our company's history, Hughes has always been a place where people accept change as challenge – a company that's been too busy defining the future to be afraid of it. We are confident the changes we're making in 1997 will serve to solidify the one constant through Hughes' long history – securing this company's legacy as an industry leader for years to come.



C. Michael Armstrong
Chairman of the Board and
Chief Executive Officer

Charles H. Noski
Vice Chairman and
Chief Financial Officer



Michael T. Smith
Vice Chairman

HUGHES ELECTRONICS CORPORATION

Financial Highlights*

(Dollars in Millions, Except Per Share Amounts)	1996	1995	1994
FOR THE YEAR			
Revenues	$15,918	$14,808	$14,099
Net Sales	15,744	14,714	14,062
Earnings	1,151	1,108	1,049(1)
% of Revenues	7.2%	7.5%	7.4%
Operating Profit (2)	$ 1,594	$ 1,667	$ 1,630
% of Net Sales	10.1%	11.3%	11.6%
Earnings Attributable to General Motors Class H Common Stock			
Total	$ 283	$ 265	$ 242(1)
Per Share	2.88	2.77	2.62(1)
Dividends Per Share of GM Class H Common Stock	0.96	0.92	0.80
Average Number of Shares of GM Class H Common Stock Outstanding (in millions)	98.4	95.5	92.1
Capital Expenditures (3)	$ 840	$ 820	$ 746
Research and Development Expenses	730	762	699
Return on Equity (4)	19.0%	20.8%	22.9%(1)
Pre-Tax Return on Total Assets (5)	13.1%	14.0%	14.5%
AT YEAR-END			
Cash and Cash Equivalents	$ 1,161	$ 1,140	$ 1,502
Backlog	15,100	14,929	13,210
Number of Employees (in thousands)	86	84	79

* Financial Highlights are unaudited and exclude purchase accounting adjustments related to GM's acquisition of Hughes Aircraft Company.

(1) Includes the unfavorable effect of accounting change of $30 million, or $0.08 per share of GM Class H common stock.

(2) Net Sales less Total Costs and Expenses other than Interest Expense.

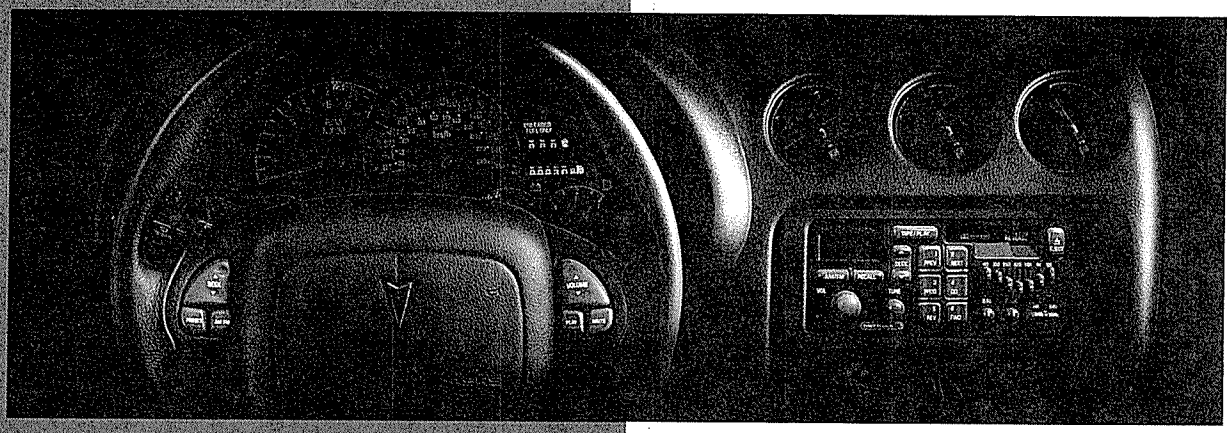
(3) Includes expenditures for telecommunications and other equipment of $188 million in 1996, $275 million in 1995, and $256 million in 1994.

(4) Earnings Used for Computation of Available Separate Consolidated Net Income divided by average stockholder's equity (General Motors' equity in its wholly-owned subsidiary, Hughes Electronics). Holders of GM Class H common stock have no direct rights in the equity or assets of Hughes Electronics, but rather have rights in the equity and assets of GM (which includes 100% of the stock of Hughes Electronics).

(5) Income before Income Taxes divided by average total assets.

HUGHES

AUTOMOTIVE ELECTRONICS



DE's products are core components of auto cockpit instrumentation displays, controls that increase safety and comfort, as well as audio systems that provide entertainment.

Delco Electronics (DE) has been one of the world's largest providers of automotive electronics for many years – achieving a 22 percent global market share in 1996 – and the company intends to remain at the top of this $24 billion market.

Vital components of DE's continued global leadership are its growth with non-GM North American Operations (NAO) and international customers. The 1996 results showed further gains in these markets: sales from international and non-GM-NAO customers increased to 19 percent of total DE revenues, a 20 percent increase over 1995.

Furthermore, DE continues to demonstrate its technology leadership. Its navigation and communications technologies are found in the new OnStar™ on-vehicle communications system for the 1997 Cadillac; its advanced electronics are part of GM's EV1™ electric vehicle; and a variety of DE-designed and manufactured components are found on 17 new GM models.

In mid-1996, DE was again named a GM Supplier of the Year in recognition of its quality, service and price for engine control modules supplied to GM worldwide. Of GM's thousands of suppliers, only a select few receive the award.

The automotive industry has been undergoing major structural changes. Automakers are seeking suppliers who can give them more cost-effective systems solutions rather than individual components. To maintain its leadership position in this changing marketplace, DE has been undertaking a realignment of its operations.

DE's traditional focus has been on designing and manufacturing vehicle electronics, and it has long been a world leader in its field. The company's broad product line – developed over 60 years – includes engine and transmission controls; antilock brake control modules; air bag electronics; vehicle security electronics; and audio, climate control, navigation and communications systems.

Since these products complement those of Delphi Automotive Systems, the GM sector that produces automotive components and systems, DE has been working more closely with Delphi. For the last several years, the two companies have been co-locating many of their international facilities. Together, the two companies have begun offering automakers inte-

The 1997 Chevrolet Corvette features 10 of DE's advanced technologies, including sytems that improve performance, security and driver safety.

grated electronic and mechanical systems solutions, such as Traxxar. This system increases vehicle stability and safety by integrating steering, braking and suspension electronic controls. Traxxar is being marketed on the 1997 Cadillac as StabiliTrak. Assuming the pending transfer of Delco Electronics to Delphi Automotive Systems occurs later in 1997 (see page 28 for further details), the new partnership will have an even greater competitive edge in the global marketplace.

Another facet of DE's realignment was the appointment in 1996 and early 1997 of a new senior management team, headed by General Manager Michael J. Burns. In 1997, DE's management will continue to improve the company's competitiveness by satisfying customers with cost savings and lower prices plus high manufacturing performance standards; expanding international operations with an increased emphasis on profitable growth; and continuing technology leadership.

Satisfying Customers

DE's focus on customer satisfaction stresses cutting costs and striving for manufacturing excellence through on-time delivery and products with zero defects.

Reduce Costs. The company made further progress in cutting costs in 1996. However, work stoppages at several North American GM plants, intensified global price competition and ongoing investment in international expansion reduced DE's operating margin.

DE continues to achieve cost reduction by incorporating the latest advances in technology into its products more rapidly than many of its competitors. DE also is redesigning its products to decrease the number of parts it buys for each system. Both cost-saving approaches are essential for the company to remain a world-leading supplier to its automotive customers.

An example of how redesign can dramatically impact costs is DE's new generation of sensors for air bag systems, the SDM-R, which employs nearly 50 percent fewer parts and is priced almost 60 percent lower than the previous design – and offers comparable functionality, performance and quality. Another successful redesign effort focused on the company's GEN-II manifold pressure sensor, which helps increase a car's performance. Through redesign, DE cut the number of assembly components nearly in half and improved reliability compared with its predecessor design.

Because purchased materials account for more than 50 percent of the cost of the company's products, redesign continues to have the greatest potential for reducing costs in future years for all of DE's customers.

Another way DE attacked costs in 1996 was by continuing to rationalize and integrate its processes. For example, by establishing uniform processes for engineering teams, DE was able to eliminate significant non-value-added costs. In 1997, another important component of its realignment efforts is to lower structural costs by streamlining the organization.

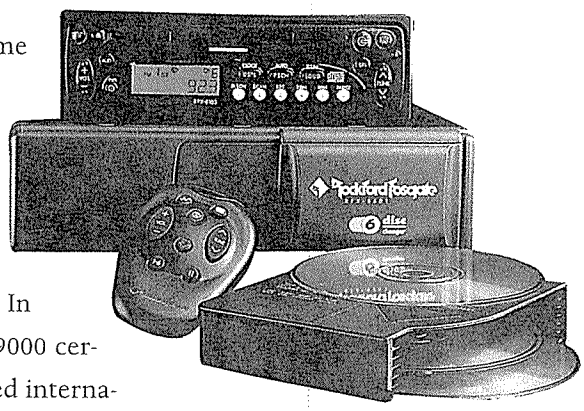
Ensure Quality. DE has set high standards for each part of its operations and expects continuous improvement toward achieving them. This helps assure that the company will meet its goal of delivering products to customers on time and manufacturing products with zero defects. In addition, the company has received certification by independent experts. In 1995, DE achieved ISO 9000 certification, a well-regarded interna-

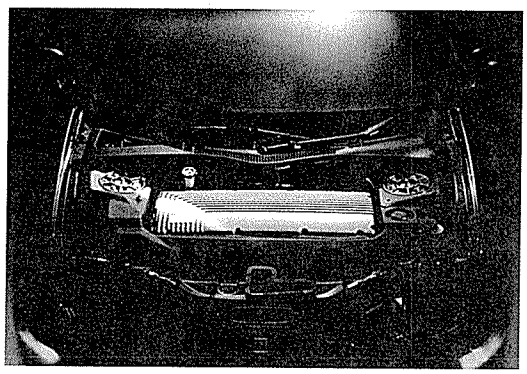
MONSOON™

The Monsoon brand audio system, introduced by DE in 1996, is being marketed directly to consumers who seek both power and finesse in a vehicle sound system. The branding and retail marketing effort is designed to stimulate product demand and help automakers sell cars when they offer Monsoon as an option.

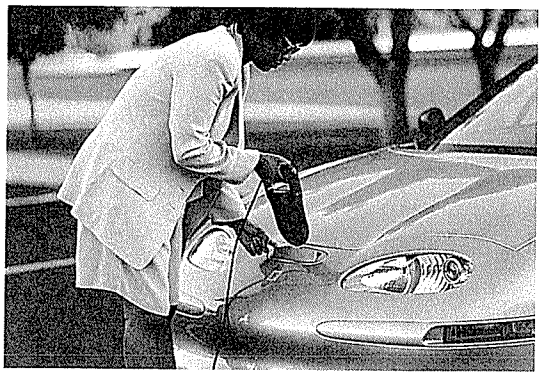
DELCO™ ELECTRONICS

Rockford Fosgate's radios are supplied by DE. These high-performance auto sound systems are available to consumers through independent and regional distributors.





Many of the components and systems in GM's EV1 electric vehicle were developed by DE. The company's inverter (near right), the propulsion system's brain, converts direct current stored in the batteries to alternating current required by the electric motor.



DE's MagneCharge™ inductive charging system (far right) provides a safe, efficient and convenient way to fill up the car.

tional standard for manufacturers, in all of its manufacturing facilities around the world. Further, in early 1997 DE won global QS-9000 certification, which is the U.S. automotive industry's own tough quality standard for automotive equipment suppliers.

Expanding Globally with a Focus on Profitability

A key part of DE's long-term growth strategy is to diversify its customer base, and sales to international and non-GM-NAO customers increased to more than $1 billion in 1996, compared with $841 million in 1995. Globally, DE has approximately 50 non-GM-NAO customers. The company is continuing to expand, but with an intensified focus on the profitability of its operations.

International Expansion. In 1996, DE:

- Opened a new design facility in Singapore that will serve Pacific Rim customers;
- Dedicated a new facility in Piracicaba, Brazil, that is manufacturing parts for automakers serving the South American market, including GM do Brasil;
- Opened a high-tech manufacturing facility in Liverpool, England, that is supplying DE's hybrid engine control unit and other electronics to European customers, and;
- Announced a joint venture, named Shanghai Delco Electronics & Instrumentation Co., Ltd., that is manufacturing a wide variety of automotive products in Shanghai, China, for the Chinese market.

New International Contracts. Among DE's international wins in 1996 was a breakthrough contract for audio systems from Daihatsu Motor Company. For the first time, DE will be supplying radios on cars to be sold to Japanese consumers.

DE was a pioneer developer of hybrid manifold pressure sensors, a product now used by customers around the world. In 1996, DE won the prestigious PACE Award from Automotive News for improvements in the design and production of these sensors.

Continuing Technology Leadership

DE continues to develop new technology to maintain its competitive edge. DE, Hughes Network Systems and EDS have teamed to support GM's OnStar smart car system, introduced in 1997 Cadillacs. OnStar incorporates DE's automobile satellite navigation system that employs the Global Positioning System. Delco technologies also enable OnStar to provide emergency message capability and other services.

In addition, DE developed more than 15 innovative technologies for GM's new EV1

lectric vehicle, which was introduced in California and Arizona in 1996, including the vehicle's power electronics bay and the MagneCharge inductive charging system.

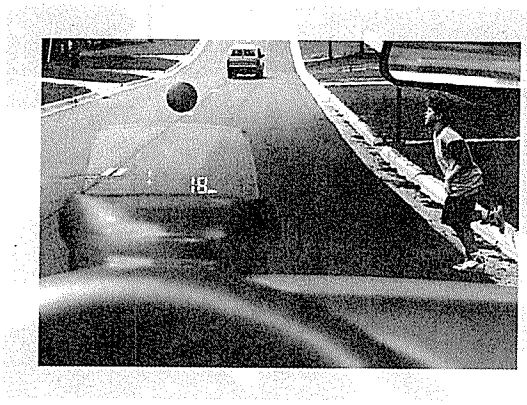
And DE's PASS-Key® III security system is a standard feature on Buick's all-new Park Avenue. PASS-Key III offers a theft-deterrent system that is set to one of 68.7 billion codes. The system electronically determines if the correct key has been inserted into the vehicle ignition; if not, it sends a message to the engine control system that prevents the car from starting.

Looking ahead, DE engineers are working on smart occupant sensing, employing weight-based and infrared sensing devices to improve the safety of air bag systems by adjusting deployment according to the size and location of the occupant.

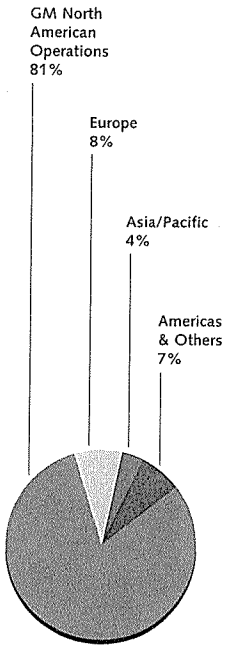
Becoming an Even Tougher Competitor

The proposed transfer of DE to Delphi later in 1997 is designed to meet the changing needs of the vehicle marketplace. By combining the strengths of the two companies, management expects to achieve greater efficiencies and to create an industry-leading supplier with an unparalleled portfolio of electronically enhanced vehicle systems.

Reducing the duplication of resources should significantly improve the total cost structure. In addition, the DE-Delphi team will be able to offer better customer service by sharing commercial accounts, customer contacts and a global customer support network. With all of these advantages, the DE-Delphi team will be a much tougher competitor in the global automotive marketplace.



EyeCue® increases safety by projecting critical vehicle information on the windshield, allowing drivers to keep their eyes on the road. DE's innovative system is available for cars and trucks.

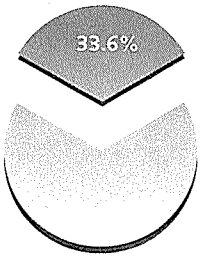


Percentage of 1996 Revenues by Customer Group

The following table sets forth selected pro forma data for the Automotive Electronics segment.

	Years Ended December 31		
(Amounts in millions, except percentages)	1996	1995	1994
Revenues	$5,350.8	$5,561.3	$5,221.7
Revenues as a percentage of Hughes Revenues	33.6%	37.6%	37.0%
Net Sales	$5,311.3	$5,479.7	$5,170.6
Operating Profit (1)	654.0	869.0	794.8
Operating Profit Margin (2)	12.3%	15.9%	15.4%
Identifiable Assets at Year-End	$3,394.9	$3,267.4	$3,429.8
Depreciation and Amortization	195.9	151.4	142.2
Capital Expenditures	196.0	264.7	166.4

Certain amounts for 1995 have been reclassified to conform with 1996 classifications.
(1) Net Sales less Total Costs and Expenses other than Interest Expense.
(2) Operating Profit as a percentage of Net Sales.



Percentage of Hughes Revenues

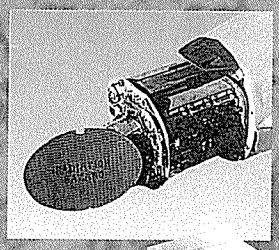
HUGHES AEROSPACE & DEFENSE

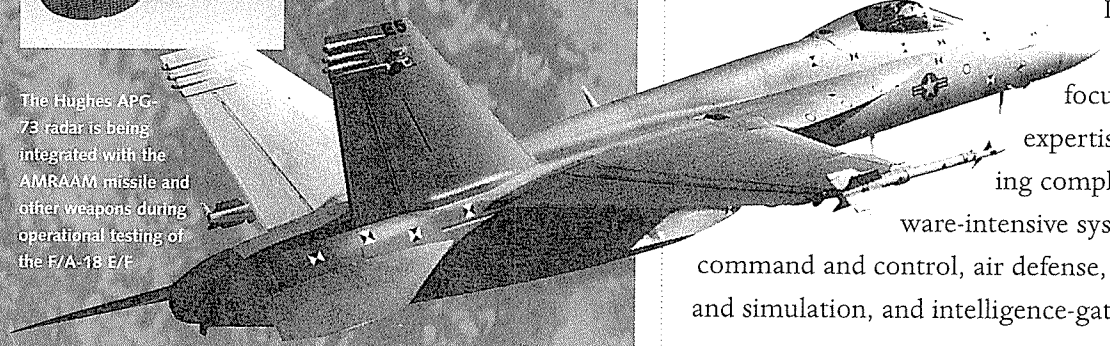
Hughes Aircraft Company (HAC) is an acknowledged leader in its core missile, sensor and information systems programs. It participates in about half of the U.S. tactical missile programs, provides radars to four out of five frontline U.S. fighter aircraft, and has developed 65 percent of the world's air defense systems.

In 1996, revenues grew 6.6 percent to $6.3 billion and backlog grew 6.2 percent to $8.2 billion. HAC achieved an operating profit margin of 11 percent, the fourth year in a row of double digit profit margins. International new orders rose 80 percent.

Even in the face of declining defense budgets, HAC won 77 percent of all the competitions it entered, increasing its contract win ratio by 17 percent over 1995. In its fast-growing information and military computer systems and services businesses, HAC won contract awards for supplying U.S. Air Force personal computers and workstations, maintaining U.S. Navy depots, and developing navigation systems for the Federal Aviation Administration. These new contracts have combined potential revenues of more than $3 billion over five years.

The HAWK-AMRAAM hybrid integrates the HAWK system, deployed in 19 countries, with the increased firepower of Hughes AMRAAM® missile to provide a modern, affordable air defense system.





The Hughes APG-73 radar is being integrated with the AMRAAM missile and other weapons during operational testing of the F/A-18 E/F.

The accomplishments of HAC and its people have enabled it not only to post excellent financial results, but also to meet the challenges of dynamic global defense markets and create an outstanding merger opportunity in a rapidly consolidating industry (see page 28 for further details).

HAC delivered on its strategies last year and will continue to do so in 1997. The major strategies are: strengthening its leadership position through consolidations and realignments; providing advanced technologies at low cost; increasing its domestic defense program win/loss ratio; and expanding international sales.

Strengthening Leadership

Reorganization/Consolidation. The organization of HAC's considerable technologies, skills and assets was further refined in 1996 with the consolidation of the company's Electro-Optical Systems business unit and the Radar and Communications business unit into a Sensors and Communications Systems unit, whose programs include space, airborne and surface-based radars; lasers, infrared and other sensors; and military communications.

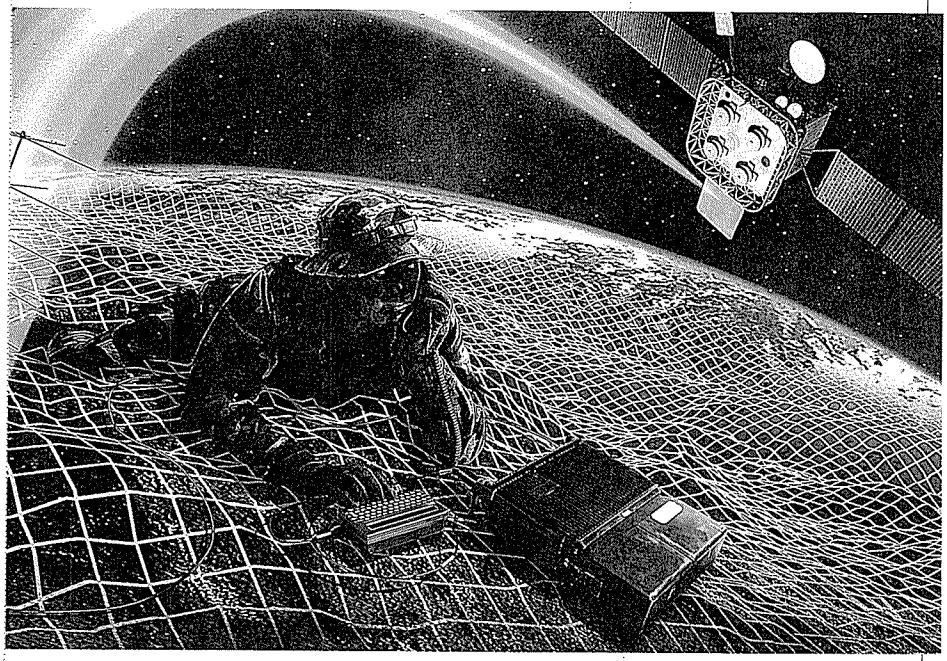
After this consolidation, HAC has three primary business units. The other two are: Weapons Systems – responsible for numerous cruise missile and tactical programs, and shipboard display and control systems; and Information Systems – focusing HAC's expertise in building complex software-intensive systems for command and control, air defense, training and simulation, and intelligence-gathering.

Partnerships. HAC is carrying out several successful partnerships with Raytheon that were entered into prior to the proposed merger.

For example, in 1996 a HAC-Raytheon team won a key study phase contract for the U.S. Army's Aerostat program, an over-the-horizon surveillance effort using high-altitude sensor technology.

And in Norway, HAC and Raytheon have teamed with Kongsberg Gruppen, ASA, to incorporate HAC's Advanced Medium Range Air-to-Air Missile (AMRAAM), along with the Hawk missile, in a new air defense system that will allow a single firing unit to launch either missile.

If the HAC-Raytheon merger occurs as expected, there will be many more opportunities for integrating the two companies' parallel operations, which should give the new company a considerable advantage in the marketplace.



HAC is a leading designer and manufacturer of military tactical communications, electronic combat and command and control products.

HUGHES AIRCRAFT

Fielding Advanced Technologies at Low Cost

Today, crucial weapons and protective systems – aboard tanks, planes and ships and in the hands of soldiers themselves – must be made smarter by integrating next-generation electronics technologies, yet must be produced using low-cost manufacturing approaches. HAC excels at this.

In the United States, HAC is leading a team carrying out the Land Warrior™ contract to equip soldiers with an integrated system of 40 state-of-the-art components. The U.S. Army plans to order 34,000 units, and interest from U.S. allies is strong. The global market potential for revenue is in the billions of dollars.

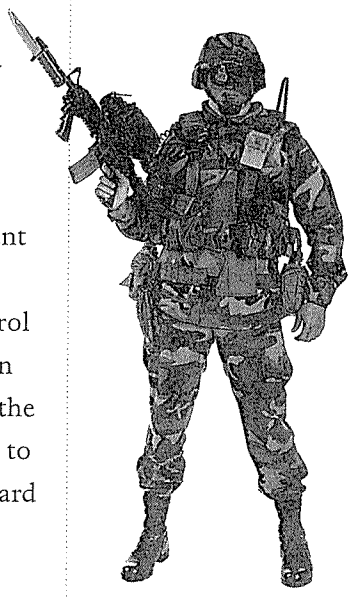
To deliver the kind of value Land Warrior represents, and to achieve life-cycle cost containment in its programs, HAC is pursuing a multi-faceted approach.

Acquisition reform is one way. For the U.S. Army's Fire Support Combined Arms Tactical Trainer (FSCATT) program, acquisition reform is helping HAC cut substantial time and cost during development, thereby lowering contract costs.

Other keys to HAC's ability to lower total life-cycle costs include: using today's most advanced electronics to achieve ten-fold improvements in performance-to-cost ratios; adopting commercial off-the-shelf technologies and common processes; leveraging all of these to build in high reliability from the start; and offering military customers up-front warranties on new systems, plus lifetime service contracts.

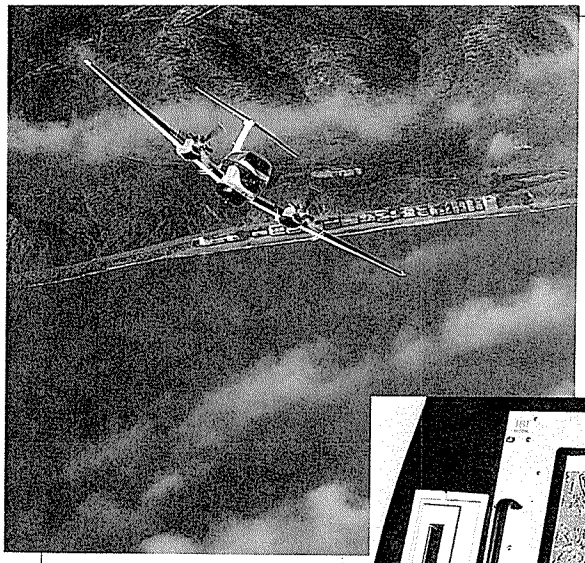
Innovative ways such as these to cut costs can be applied at every stage of building a weapons system. In a shrinking market driven by value, only companies that are able to consistently deliver on promises to be a low-cost manufacturer will succeed.

Land Warrior is the U.S. Army's first integrated fighting and support system for soldiers. HAC is the systems integrator for this new product line, which has 40 components.



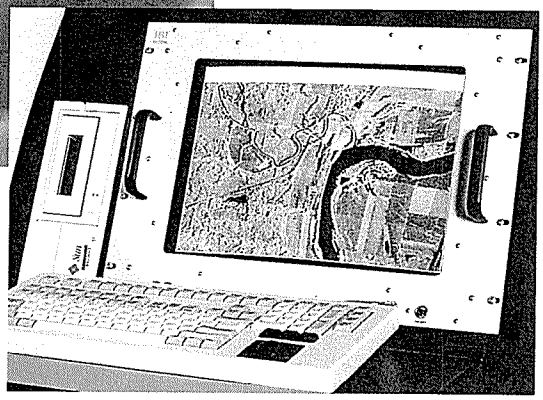
Winning Domestic Contracts

Civil Aviation Expansion. Two major recent contract wins reinforce HAC's position as a significant participant in the air traffic control marketplace: a $483 million Federal Aviation Administration (FAA) award for improving the capability of the Global Positioning System to support navigation and landings; and an award of up to $1 billion, jointly won with



The Hughes Integrated Synthetic Aperture Radar is a system employing military reconnaissance technology that helps non-military agencies with such surveillance activities as monitoring the environment and catching smugglers.

(Opposite Page)
HAC's Advanced Oceanic Automation System for the Federal Aviation Administration will provide direct controller-to-pilot data-link communications, automatic position reporting and region-to-region flight information communications.



Raytheon, to provide HAC's TracView® air traffic control stations as a backup to FAA and Department of Defense air traffic control terminals.

Core Market Contracts. Last year, HAC won numerous contracts from military customers in its traditional core markets, including more than $700 million in awards to build AMRAAM missiles for the U.S. Air Force and U.S. Navy, and Tomahawk and Standard Missiles for the U.S. Navy. HAC also won the engineering and manufacturing development contract for the AIM-9X missile. The initial AIM-9X contract is for $169 million, but the potential value of the program in sales to the U.S. Navy and Air Force and international customers over the next two decades is $5 billion.

Another key contract was HAC's more than $200 million share in a $641 million award to the Avondale Alliance to design, construct and support the U.S. Navy's next generation of amphibious ships. As systems integrator, HAC will be responsible for electronic systems over the 40-year life cycle of each ship. Because of the overwhelming importance of electronics to the operation and defense of modern high technology warships, this project points the way for HAC to take a leading role in future shipbuilding programs and retrofits of existing ships with the latest electronics.

Opening New Markets. Billions of dollars in business to perform military overhaul, repair and maintenance work previously exclusively done by government-run depots and terminals is being opened to industry. HAC is in the forefront of companies winning these "privatization" contracts. Last year, it won the largest such contract so far, an award with a potential value of $1.3 billion over five years for privatizing the Naval Air Warfare Center in Indianapolis.

In the growing U.S. government market for desktop computers, workstations and informa-

The Unit Training Device is a cost-effective way for the U.S. Air Force to provide continuing combat training. HAC is the second largest training and simulation systems provider in the world.

tion systems technology, HAC won three major contracts that could have combined revenues of $2 billion over their lifetimes. HAC is one of two firms chosen to supply the U.S. Air Force with approximately 37,000 workstations over five years at a total price of more than $950 million, along with $924 million worth of desktop computers. The U.S. Patent and Trademark Office selected HAC to provide up to $171 million worth of computers and peripheral equipment.

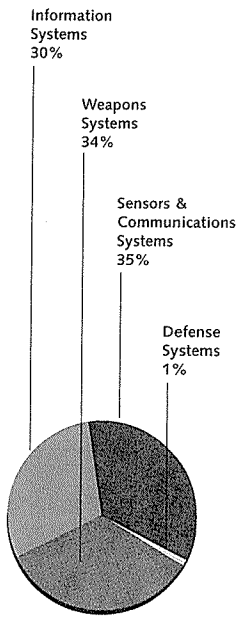
Winning Internationally

International new orders grew to $1.8 billion in 1996, led by several major contracts: $224 million from Norway for AMRAAM missiles, jointly for HAC and Raytheon; $262 million from the U.S. Air Force for operations, maintenance and training for Saudi Arabia's Peace Shield air defense system (which Hughes designed and built); $219 million in TOW missile awards from ten countries; and $126 million from GM's 22-nation European dealership network for training support in 17 languages.

A joint venture of HAC and Raytheon and several European companies has been awarded an $80 million contract related to the initial project definition stage of MEADS, the Medium Extended Air Defense System. MEADS is to be available by 2005 for use by U.S., German and Italian military units.

Merging HAC with Raytheon

Assuming that HAC's strengths are combined with those of Raytheon later this year, the merger of the two companies will create a world leader in defense electronics. In the defense electronics sector alone, the new company would report 1996 pro forma combined revenues of $13 billion and a backlog of $18 billion. Its 127,000 employees and across-the-board excellence in a broad range of programs and technologies will make it a potent competitor to the giant combinations – like Lockheed Martin and Boeing – that have emerged from the defense industry's continuing consolidation.

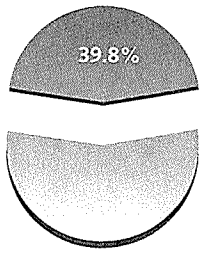


Percentage of 1996 Revenues by Business Unit

The following table sets forth selected pro forma data for the Aerospace and Defense Systems segment.

	Years Ended December 31*		
(Amounts in millions, except percentages)	1996	1995	1994
Revenues	$6,338.4	$5,945.4	$6,023.6
Revenues as a percentage of Hughes Revenues	39.8%	40.2%	42.7%
Net Sales	$6,331.5	$5,899.7	$6,007.3
Operating Profit (1)	694.7	688.0	663.6
Operating Profit Margin (2)	11.0%	11.7%	11.0%
Identifiable Assets at Year-End	$5,296.9	$5,369.7	$4,262.4
Depreciation and Amortization	157.6	132.0	158.5
Capital Expenditures	171.1	109.8	159.5

* The summary excludes purchase accounting adjustments related to GM's acquisition of Hughes Aircraft Company. Certain amounts for 1995 have been reclassified to conform with 1996 classifications.
(1) Net Sales less Total Costs and Expenses other than Interest Expense.
(2) Operating Profit as a percentage of Net Sales.



Percentage of Hughes Revenues

TELECOMMUNIC

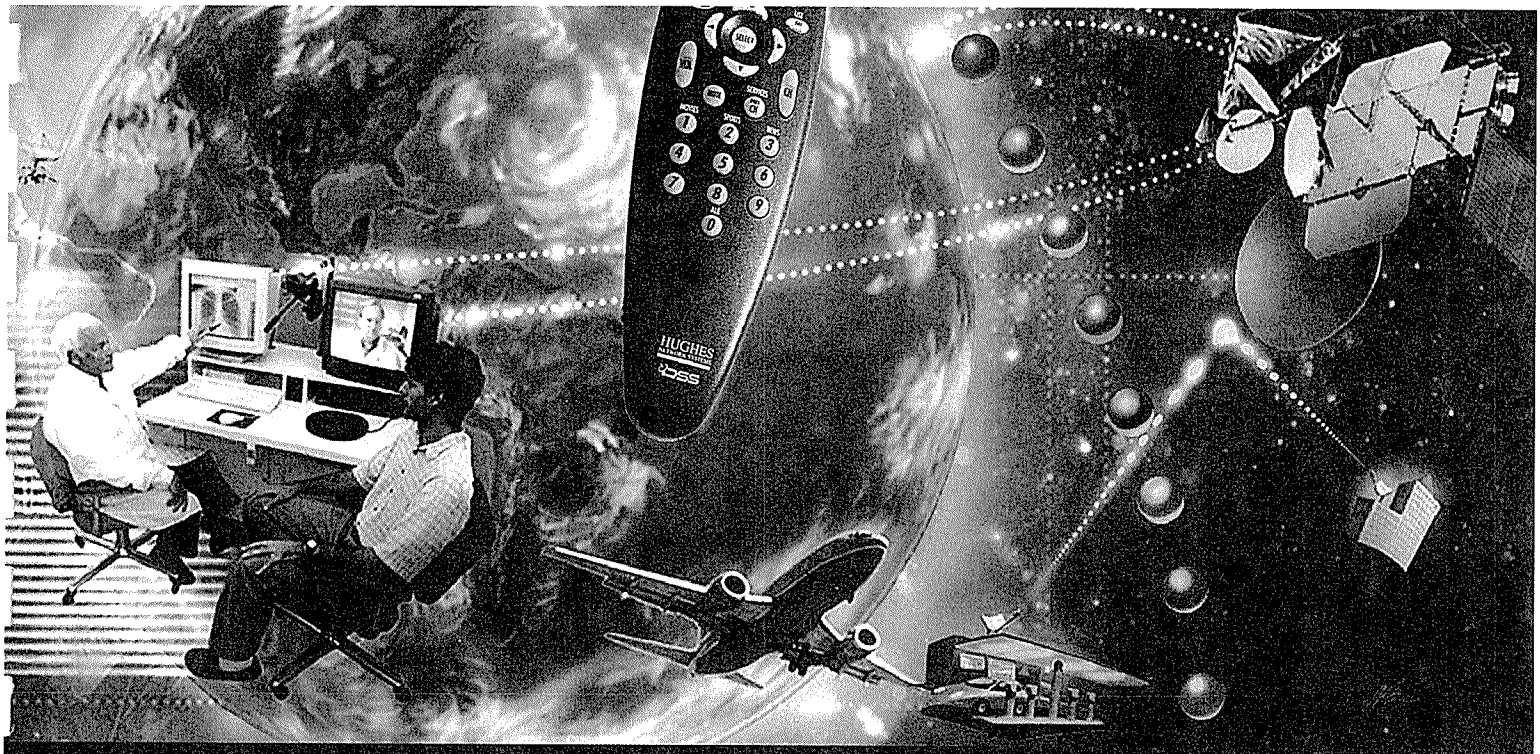
As the world's premier satellite builder and services provider, Hughes' Telecommunications & Space segment is shaping the global vision of telecommunications for the 21st century. It is breaking boundaries between satellite and cable, wireline and cellular, desktop computer and living room TV. The Wireless Expressway™ that Hughes is paving will transport us into an age of universal, mobile and interactive communications.

In today's global village, entertainment, personal communications and critical business information flow seamlessly across borders via a worldwide telecommunications infrastructure. Some 64 Hughes-built satellites help form the space-based portion of this great nexus. To meet tomorrow's challenge of Internet usage that is already growing 300 percent a year, Hughes is starting to manufacture satellites with throughput 150 times faster than conventional telephone lines.

In services, Hughes' market-leading DIRECTV already provides over 175 channels of in-home digital entertainment to more than 2.5 million U.S. subscribers. Hughes also has introduced this service in Latin America, and within a year, DIRECTV is expected to arrive in Japan.

Concurrently, Hughes is introducing mass-market business and consumer services for high-data-rate communications. DirecPC™ now provides instant Internet access and extremely fast download times. In the future, Hughes' proposed next-generation SPACEWAY™ service may enable computer users to exchange data, voice and video simultaneously, at high speed and in real time.

With the convergence of TV and computer technologies, soon, DIRECTV subscribers will be able to receive televised sports, news and enter-



ATIONS & SPACE

tainment on their computer, along with interactive and multimedia services, information, games and even software.

Satellite technology also offers unlimited potential for individuals to communicate on the move. Handheld mobile telephony, with full global roaming capability, should become available at the turn of the century with the launch of the Hughes-built 12-satellite ICO system.

In telecommunications and space, Hughes' strategy is two-fold. First, to maintain its edge in commercial satellite manufacturing, transponder sales and leasing, satellite-based and ground-based telecommunications networks, and direct-to-home television services. And second, to keep moving up the value chain, fully exploiting its satellite leadership with additional innovative, value-added, mass market global telecommunications services.

Hughes' core strengths in satellite manufacturing and operations provide strong competitive advantages as it moves into new high-growth service markets. Advantages include an ability to get to market first, recognized market leadership, superb technology, financial strength, management depth of experience, and vertical integration of Hughes' telecommunications businesses into a true one-stop service.

Last year, Telecommunications & Space segment revenues grew 33 percent to $4.1 billion. Given surging worldwide demand for communications and Hughes' growing strengths in the marketplace, the company expects its vision and strategy to continue yielding strong revenue and earnings growth.

HUGHES SPACE & COMMUNICATIONS

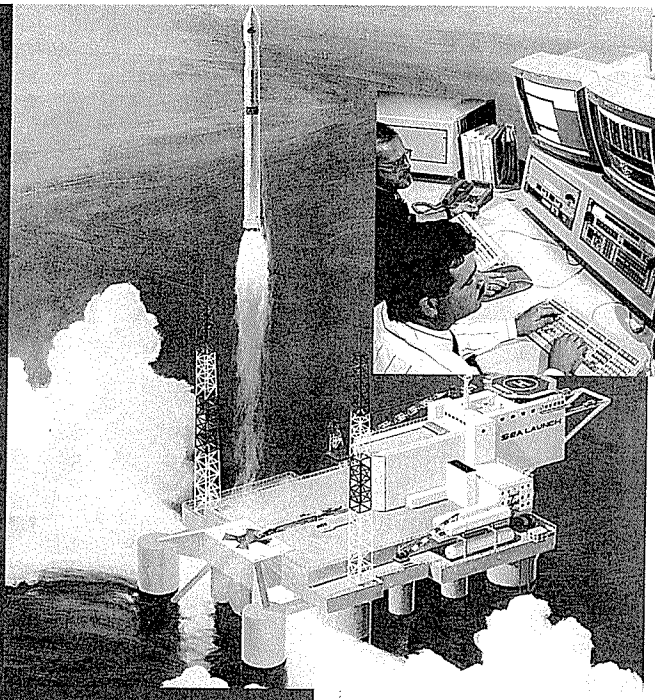
Global demand for communications satellites is booming, and in 1996 Hughes Space & Communications (HSC), which manufactures commercial and government spacecraft, increased its revenues by 21 percent. The company maintained its leadership position by winning 50 percent of all commercial competitions. At the end of the year, HSC had a booked backlog with a value of $4.3 billion.

To manage its increasing volume of business, in recent years HSC has streamlined its manufacturing process, and this has significantly increased employee productivity and reduced cycle time.

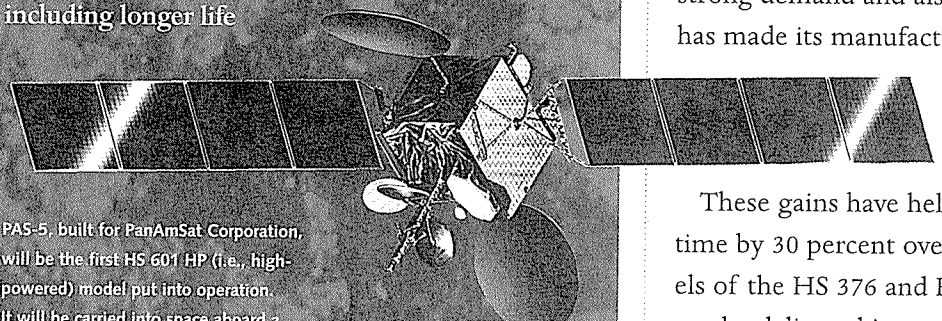
A key factor in HSC's continuing success is its leading-edge technologies, which have long set the company apart from follow-on competitors. During 1996, HSC completed development of the xenon ion thruster. This new electric propulsion system offers many performance improvements, including longer life and significant cost savings.

HSC's commercial customers can count on average satellite channel availability exceeding 99 percent, an outstanding record of reliability.

HSC's next generation satellite, the HS 702, will offer customers nearly twice the capacity and more than double the power of the most sophisticated satellite now in operation. The first HS 702 spacecraft, which is being built for Hughes Galaxy Communications, is expected to be launched in 1998.



Hughes' HS 702 model satellite will be the first spacecraft to be carried on Sea Launch, left, which will send rocket to space from a platform in the Pac Ocean beginning in 1998. At Hughes' Mission Control Center, above, controllers monitor a satellite durin its ride into space, maneuver it into proper orbit, and thoroughly test it before turning it over to the custor



PAS-5, built for PanAmSat Corporation, will be the first HS 601 HP (i.e., high-powered) model put into operation. It will be carried into space aboard a Proton rocket launched from Kazakhstan, Russia.

Hughes' pioneering technologies have broadened the scope of satellite-based telecommunications. For HSC, the expanding market is bringing greater opportunities – and more competition. The company is meeting this challenge with these main strategies: maintaining its number one position in commercial satellite manufacturing; and increasing both its U.S. government and international customer bases.

Maintaining Leadership in Satellite Manufacturing

Maintaining leadership means being the low-cost manufacturer; delivering spacecraft to meet customers' schedules; producing reliable satellites employing advanced technology; and assuring the availability of launch facilities.

Reducing Costs and Cycle Times. HSC delivered 11 satellites in 1996 and expects to deliver 24 more over the next two years. At year-end, its backlog stood at 37 satellites. To meet strong demand and also to lower costs, HSC has made its manufacturing facility more efficient. Since 1992, it has increased productivity by 47 percent.

These gains have helped HSC reduce cycle time by 30 percent over five years. Basic models of the HS 376 and HS 601 spacecraft now can be delivered in two years or less. In 1996, to meet customers' tight schedules, HSC deliv-

ered two HS 376 satellites within 14 months of being ordered.

Reliability Record/Technology Development. By early 1997, HSC had reached a new milestone: of the 120 commercial communications spacecraft it has launched in the past 32 years, 64 are still in service – and these have accrued 850 years in operation. Its nearest competitors' fleets each have accumulated only about a third as many years. In addition, more than 80 percent of the satellites have exceeded mission life by at least 10 percent.

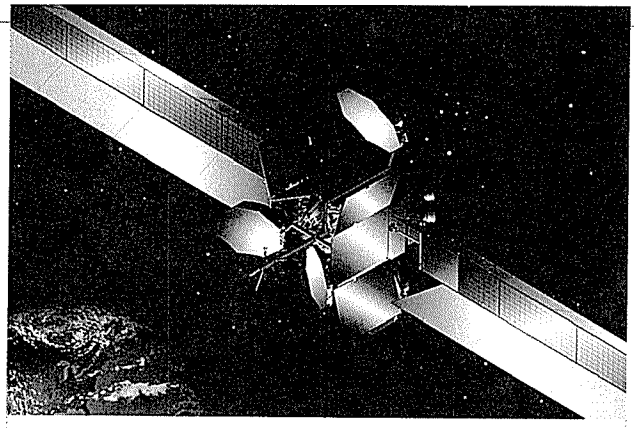
Hughes also is a spacecraft technology leader. Its continuing investment in technology development is dramatically improving the capabilities of satellite-based communications systems. For example, advanced solar technology, including new gallium arsenide solar cells developed by a Hughes subsidiary, will enable HSC's next-generation HS 702 satellite to have double the power of existing satellites. Another key Hughes technology is a digital processor that will operate as a "switchboard in the sky" for the wireless communications of future satellite-based systems.

Global Launch Commitments. To increase competitiveness, HSC must be able to offer customers launch options. HSC has been at the forefront in negotiating advance bookings for multiple launches. These commitments have helped increase competition in the launch industry, which is expected to result in more availability, greater reliability, lower costs, and the capability to launch larger satellites.

By early 1997, HSC had secured more than 40 future launch vehicles to be provided by companies in the United States, Japan, Kazakhstan and elsewhere.

Increasing U.S. Government and International Business

HSC has built numerous satellites for the Department of Defense and other agencies of the U.S. government. These customers represent about 50 percent of the company's business.



The HS 702 satellite model will provide more than double the power and nearly twice the capacity of existing body-stabilized satellites. Its on-board processing capability will allow the satellite to help reconfigure its own power, bandwidth and broadcast patterns to meet customers' expanding needs.

Seven ultra-high-frequency (UHF) communications satellites have been built for the U.S. Navy, and three more are under construction, each incorporating a global broadcasting payload derived from Hughes' DIRECTV technology. And three satellites being built for the National Aeronautics and Space Administration will enable it to communicate with the space shuttle and other spacecraft in low-earth orbit.

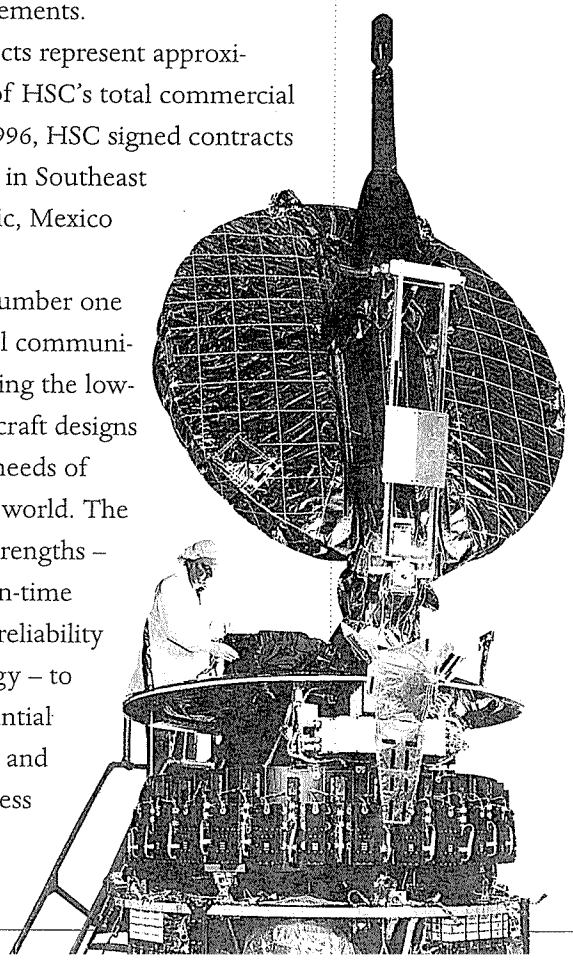
In 1996, HSC established a new unit, Hughes Government Services, that will help government customers acquire satellite services from various operators of commercial systems. Its goal will be to tailor end-to-end communications solutions matching each government customer's unique requirements.

International contracts represent approximately three-fourths of HSC's total commercial satellite business. In 1996, HSC signed contracts with companies based in Southeast Asia, Japan, Asia-Pacific, Mexico and Europe.

HSC maintains its number one position in commercial communications satellites by being the low-cost provider of spacecraft designs that meet the diverse needs of customers around the world. The company is using its strengths – efficient production, on-time delivery, performance reliability and superior technology – to continue to win substantial shares of international and U.S. government business in a competitive but growing marketplace.

HUGHES
SPACE & COMMUNICATIONS

Shown during construction is APSTAR 1A, an HS 376 spinning spacecraft model that was launched in mid-1996 and is now providing general communications services in Asia.



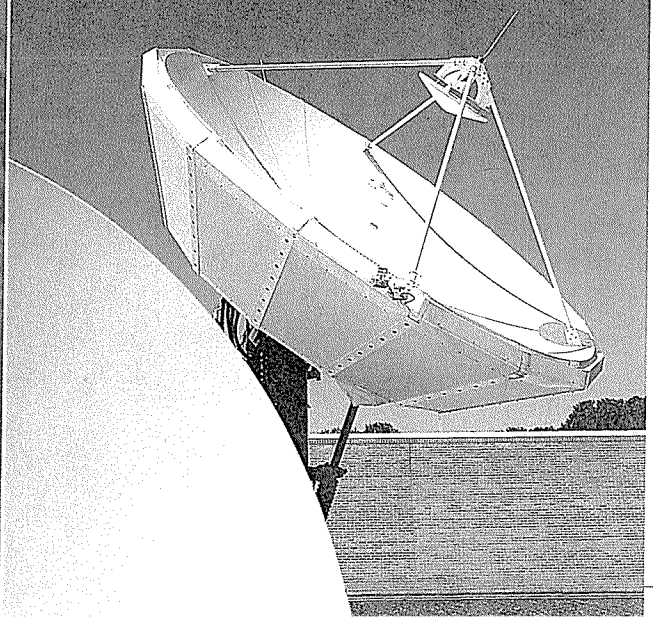
HUGHES NETWORK SYSTEMS

From the world's most prosperous countries to the world's developing countries, wireless communications systems are in great demand. Hughes Network Systems (HNS), a leading provider of satellite-based private business networks – or, very small aperature terminals (VSATs) – and terrestrial-based wireless communications equipment, increased its revenues by 18 percent in 1996. The company has a more than 60 percent share of the global VSAT market. Revenues from terrestrial-based wireless systems sales, the fastest growing segment of HNS' business, were up 25 percent, with the increase fueled by growth in fixed wireless systems for emerging countries.

HNS is working to increase its revenues from higher-growth-potential service businesses. One source of such service revenues is DirecPC, with its Turbo Internet™ offering – a fast-speed Internet communications service that the company has begun marketing worldwide. In addition, HNS is pursuing licenses to offer basic telephone services in two large regions of India.

Another growth opportunity will be supplying personal communications service (PCS) equipment. HNS has entered into strategic relationships with two companies that won PCS licenses for major U.S. markets – and will be providing equipment with a potential value of more than $1 billion.

For more than 25 years, HNS has been the world leader in satellite-based, digital networking. Antennas like these at a VSAT hub station are a key part of every HNS network.



DirecPC, HNS' satellite-based, fast-delivery information service, can transfer files simultaneously to multiple sites and download large software or video files in seconds to desk-top computers.

HNS is achieving double-digit annual revenue growth by providing innovative telecommunications products, systems and services in 60 countries. HNS' strategies are to increase revenues from services; build sales in core markets; and expand its market-driven technology portfolio.

Increasing Revenues from Services

HNS is pursuing its strategy of increasing revenues from services by building on its manufacturing strengths. DirecPC is one such service. DirecPC is a satellite-based, high-data-rate communications service that rapidly delivers software, multimedia communications, video and large documents from the Internet to personal computers. HNS is marketing the DirecPC service, and the equipment it manufactures, in North America, Europe and Asia. In the United States, CompUSA's retail stores began offering the DirecPC equipment to consumers nationwide in early 1997.

A new telecommunications venture in India is another potential source of service revenues. HNS and its local partners are pursuing government licenses to provide telephone service in the states of Maharashtra and Karnataka, with a combined 130 million households. Each state's telephone market size is comparable to that of a Regional Bell Operating Company in the United States.

Strengthening Leadership in Core Markets

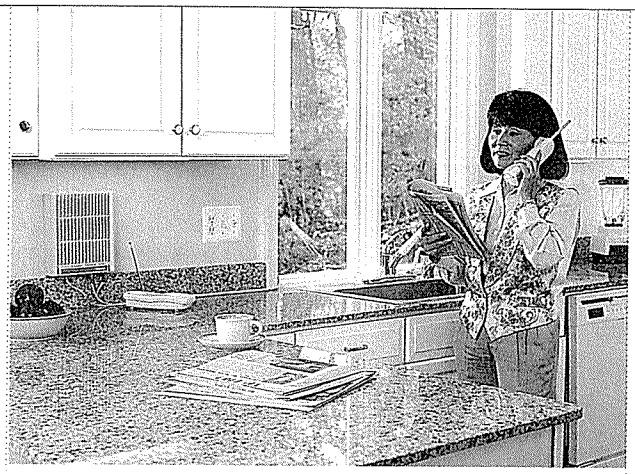
HNS pioneered the development of satellite-based VSAT networks, and the company has maintained its worldwide leadership position. In the United States, the company solidified its market share in 1996 with installations of new or expanded VSAT business networks for Ford Motor Company, Mobil Oil and other large companies.

Internationally, HNS installed VSAT business networks that can simultaneously handle data, voice, fax and video services for customers in 49 countries during the year. In addition, the company installed 45 VSAT voice service networks in 17 emerging market countries. Among these was a VSAT system that established China's first nationwide paging network.

Wireless Equipment Market. HNS is a strong competitor in emerging markets because, unlike wireline equipment providers, it can provide a fixed wireless telephone system within months of signing a contract, and at a very competitive cost. In 1996, the company installed systems in Indonesia, the Czech Republic, Malawi, Vietnam and Brazil.

Mobile Cellular Market. Mobile communications is another prime market for HNS. An emerging high-potential segment in this market is PCS. Because of HNS' two large equipment supply agreements with NextWave Telecom, Inc. and Indus, Inc., the company is well positioned for future growth in PCS, which transmits an improved quality of voice communications as well as data to hand-held phones.

In May 1996, HNS completed its installation of a new generation cellular infrastructure for BellSouth's cellular system, which serves more than one million subscribers, using HNS technology that can operate in either analog or digital mode. The company has a valuable ongoing supplier relationship with BellSouth.



In countries around the world, HNS' wireless systems provide basic telephone service. These systems are affordable alternatives to wireline systems, which may be unavailable, overburdened or outmoded in emerging markets. In the home, a Single Subscriber Unit mounts on a wall or window.

Expanding the Technology Portfolio

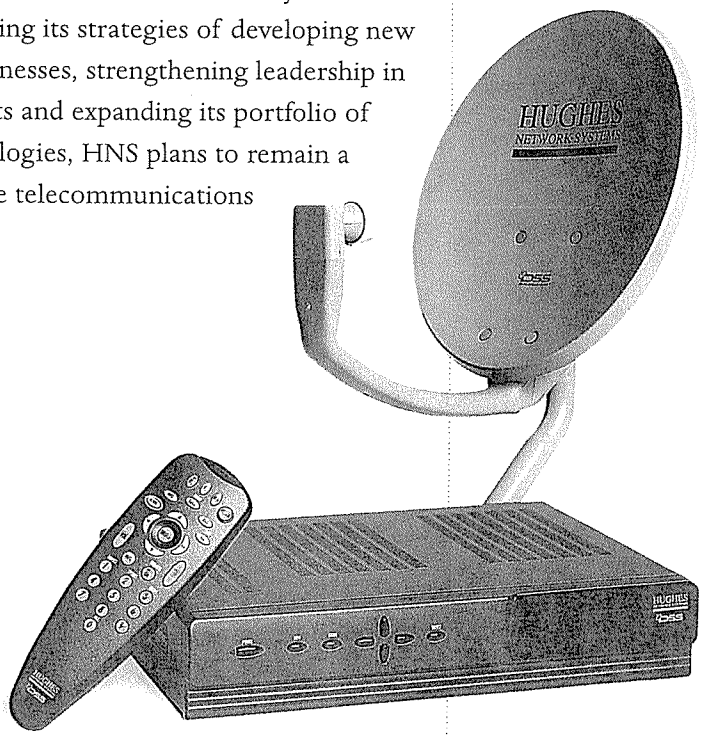
HNS makes development of new market-driven technologies a top priority. For example, the company's IS-136 TDMA (time division multiple access) digital transmission voice technology offers superior quality, and also allows cellular and PCS operators to provide identical features and seamless roaming between systems. HNS was first to introduce the technology and will supply it to Indus for its new PCS service.

However, because customers are demanding a complete spectrum of PCS technologies from suppliers, HNS is also licensing technology from other companies in order to rapidly expand its product portfolio. For example, HNS will use CDMA (code division multiple access) digital technology in the products it manufactures for NextWave's PCS systems.

By following its strategies of developing new service businesses, strengthening leadership in core markets and expanding its portfolio of new technologies, HNS plans to remain a leader in the telecommunications industry.

HUGHES
NETWORK SYSTEMS

HNS' own brand of DSS made its U.S. debut in 1996, and by year-end, the company had already shipped 170,000 units. The HNS system, including an 18-inch satellite dish, set-top receiving unit and remote control, receives programming from DIRECTV.



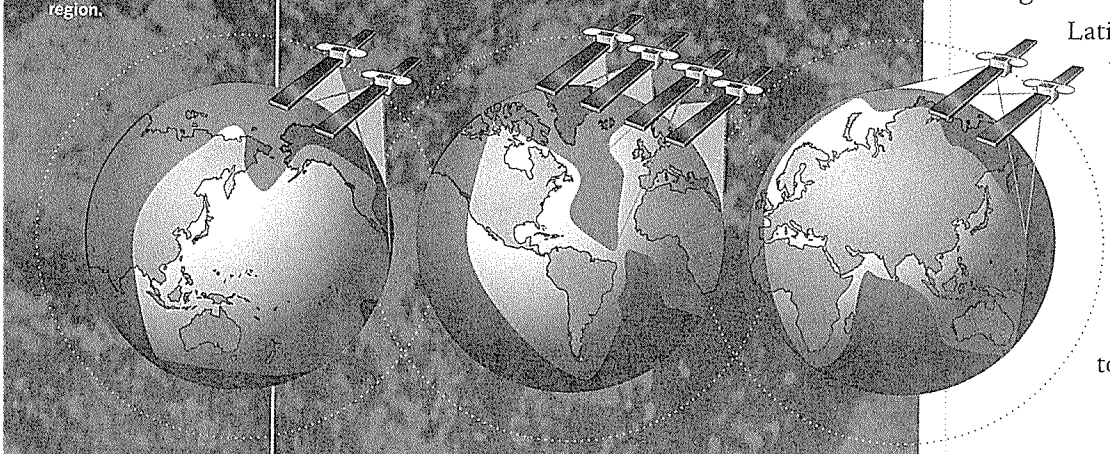
HUGHES GALAXY

Operating satellites is a fast-growing, high-margin business for Hughes Galaxy Communications. In 1996, it increased revenues by 20 percent and achieved an operating margin of more than 50 percent. Hughes Galaxy is the leading U.S. provider of satellite distribution services and enjoys a 44 percent share of the market. It leases transponders and sells services to dozens of major cable television systems, news and entertainment companies and private business networks.

Hughes Galaxy pioneered some of the industry's most innovative marketing programs: sales and leasing on a non-common carrier basis; pre-launch sales commitments; creation of cable, broadcast and other "neighborhoods" to attract customers with similar needs; and sales and leasing of backup transponder capacity.

Hughes Galaxy owns and operates 10 satellites with 283 transponders. The fleet's entire capacity was essentially sold out last year. But the company still expects continued robust growth in the future following completion of its merger with PanAmSat Corporation in mid-1997 and the launch of seven new satellites together this year and next. By the end of 1998, the new company's combined fleet is expected to offer customers 731 transponders aboard 21 satellites spanning the globe.

PanAmSat currently has four commercial satellites in orbit, and four more on order that will boost capacity in each global region.



Hughes Galaxy's strategy to build revenues and maintain its strong margins is fourfold: completing the PanAmSat merger; maintaining U.S. leadership; achieving growth in international markets; and offering customers valuable new satellite distribution services and applications.

Completing the PanAmSat Merger

In September 1996, Hughes announced an agreement to merge Galaxy with PanAmSat Corporation and form a new publicly traded company. PanAmSat's 1996 revenues were $247 million, more than double the previous year. It operates four satellites with 128 transponders and serves all of the world's seven continents.

When the merger is completed, Hughes will own 71.5% of the new company. The combined firms will operate as PanAmSat Corporation, and will own the world's largest, most cost-efficient private sector commercial satellite constellation. The company immediately will have 14 satellites in operation over the Atlantic, Pacific and Indian ocean regions, offering customers one-stop-shopping for global satellite communications services.

Maintaining U.S. Leadership

Expand Domestic Fleet. In 1996, two new satellites were added to the Galaxy® fleet, and an additional three are scheduled to be launched by 1998. These current and future satellites are targeted for support of Hughes' direct-to-home (DTH) service to Latin America and cable, news and business distribution services in the United States.

Customer Service. Last summer, Hughes Galaxy began using a state-of-the-art operations center in Long Beach, California. It enables operators to cut in half the time required to connect customers to Galaxy's satel-

lites. The new center also facilitates round-the-clock customer support, and its design will accommodate future growth.

Marketing Innovations. The company has pioneered the creation of satellite neighborhoods, a powerful concept that adds to its competitive advantage. For example, selected Galaxy satellites are cable television neighborhoods. Each one concentrates a broad range of cable programming on one satellite, thus appealing to many cable TV operators and, in turn, attracting business from additional cable customers who desire wide distribution of their programs. Hughes Galaxy also is extending the concept of neighborhoods to TV broadcasting, financial services and other customer categories.

Building International Sales

Even before the PanAmSat merger was announced, Hughes Galaxy was pursuing international growth. This effort was initiated with the 1996 launch of Galaxy 3R, whose services include the Latin American DTH market. By the year 2000, Hughes expects to launch an additional three satellites, which will provide video, audio and data distribution services in international markets.

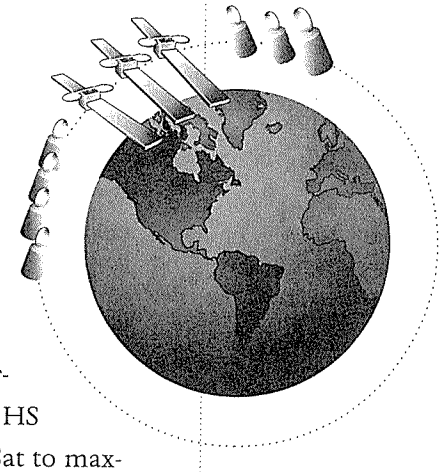
However, Hughes Galaxy's efforts to build global sales will be greatly accelerated once the merger with PanAmSat is completed. PanAmSat brings an established international infrastructure, market access, additional orbital slots, an excellent reputation around the world, and a fleet covering 98 percent of the world's population.

Offering New Customer Services

The combined company's substantial number of orbital slots, including many in the new Ka-band frequency, will allow it to expand the wealth of communications services now available to customers. These include real-time global computer networking, tele-imaging, distance learning, digital libraries, desktop videoconferencing and telecommuting, and high-speed downloading from the Internet.

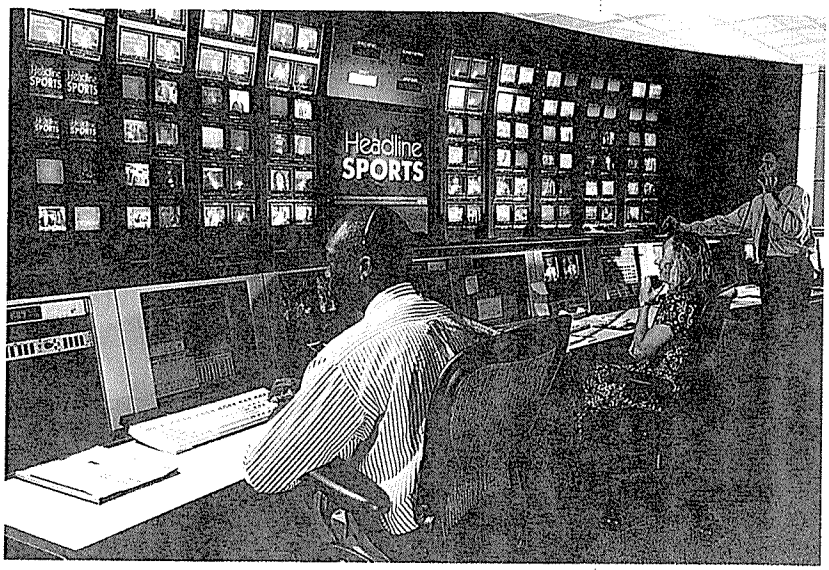
The coming generation of ever-more powerful satellites, like the HS 702, will enable the new PanAmSat to maximize spectrum use and increase applications, thus further boosting growth to businesses of all sizes, and even to individuals.

By delivering on its strategies to complete the PanAmSat merger, maintain U.S. leadership, build international sales, and continue serving customers with high-value applications, Hughes Galaxy expects to continue to achieve strong growth and profitability in the satellite transmission service business.



HUGHES COMMUNICATIONS GALAXY®

The 10 satellites in Galaxy's fleet make it the leading provider of cable and broadcast television distribution in the U.S. market. Three large new satellites are on order.



At the Galaxy Network Operations facility in Long Beach, California, operators provide customers with easy, fast access to Hughes' satellite fleet.

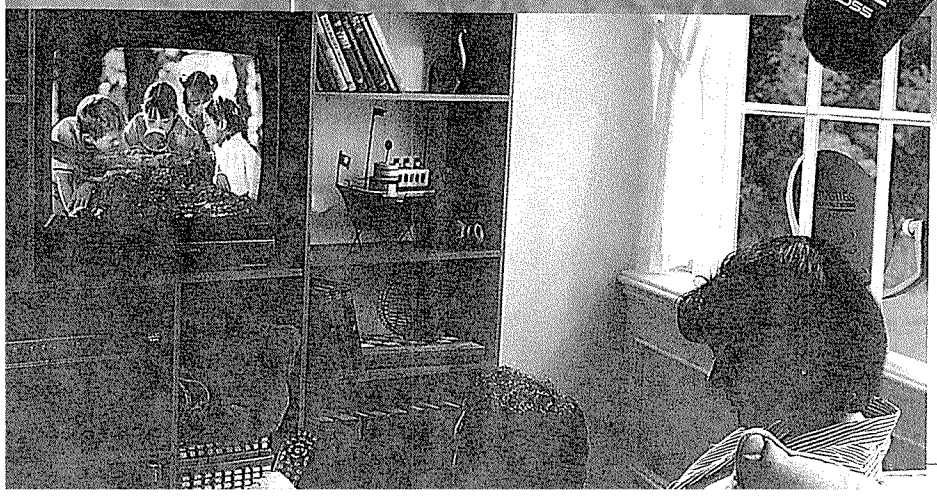
DIRECTV

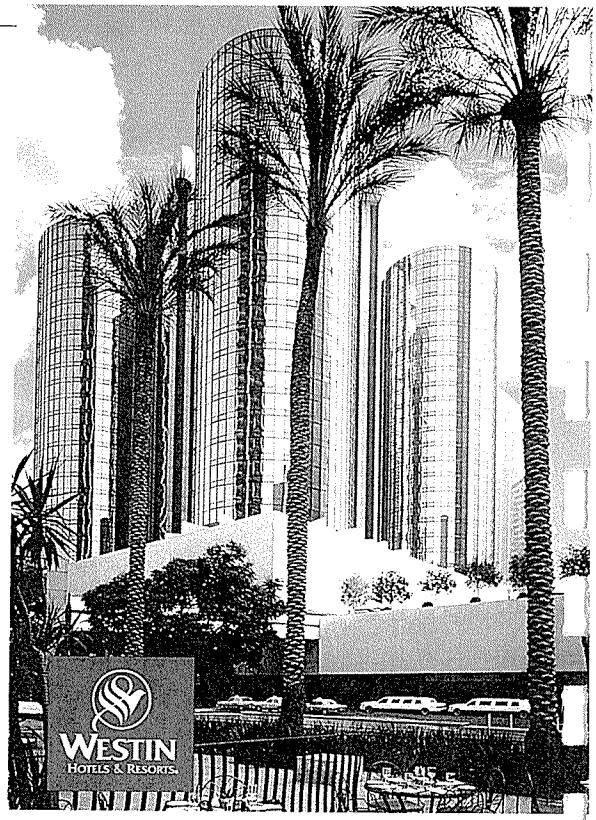
DIRECTV, the first high-powered satellite-based DTH broadcast service in the United States, nearly doubled its subscriber base and achieved a 155 percent increase in revenues in 1996.

High quality – in customer service, programming selection and technology – is the DIRECTV hallmark. This is why the service has already garnered a more than 50 percent share of the DTH market in the United States. Also spurring subscriber growth is a strong distribution network of more than 26,000 outlets comprising the nation's leading consumer electronics retailers.

In Latin America, DIRECTV anticipates strong demand, in part because an international partnership of prestigious communications companies is guiding the service's entry into the 22-country region, a complex task due to the wide variety of cultures. Another strong international partnership is working to assure that the DIRECTV debut in Japan is successful by carefully planning its marketing and distribution efforts, as well as by creating a programming line-up that is differentiated and will meet the tastes of the Japanese consumer.

DIRECTV delivers theater-quality video, CD-quality audio, more than 175 channels of excellent programming plus top-notch customer service.





Westin Hotels and Resorts is one of several major corporate hotel chains to offer DIRECTV programming as a free-to-guest, in-room service.

DIRECTV is very popular with subscribers on two continents already and is about to debut on a third. Hughes is positioning DIRECTV to become the worldwide leader in the burgeoning satellite DTH business.

In the United States and Latin America, Hughes is marketing DIRECTV aggressively to build its subscriber base and is continuously increasing subscriber value with superior programming choices and unparalleled customer service. In Japan, the company is planning to use these strengths to grow quickly.

United States

DIRECTV leads the U.S. market, and by early 1997, the company was delivering over 175 video and audio channels to more than 2.5 million subscribers – a total that grows every day. To build its customer base, DIRECTV is delivering the programming customers demand, expanding its

marketing and distribution, and planning exciting new data services.

Programming Choices. American consumers demand many types of programming and excellent value at the same time. DIRECTV is delivering both. While offering viewers more sports and pay-per-view selections than competitors, DIRECTV continues to expand its programming line-up.

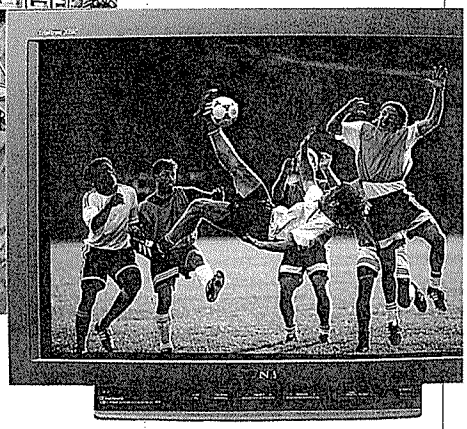
For example, in early 1997, DIRECTV added 14 new channels, including Trinity Broadcasting Network and Superstation WGN – the two channels most requested by its customers. Another differentiator for DIRECTV customers is its sports programming, which includes: NFL Sunday Ticket™, NBA League Pass℠ and MLB Extra Innings℠. In addition, DIRECTV is developing its own original programming, beginning with sports packages such as DIRECTV Ringside™, an exclusive monthly boxing series.

Marketing. In August 1996, DIRECTV introduced a $200 cash-back offer to new customers who purchased any brand of DSS equipment and a one-year subscription to a Total Choice™ programming package. This campaign made DSS equipment even more affordable and further stimulated sales.

Broader Distribution. DIRECTV has developed an unmatched network of licensed consumer electronics retailers who offer the DSS equipment. In addition, consumer electronics manufacturers including Hughes Network Systems market 11 DSS brands, such as RCA, Sony, Toshiba, Hitachi and Panasonic.

While single-family homeowners are the primary market for DIRECTV, the company is steadily developing other markets. In the multiple-dwelling-unit market, DIRECTV has already signed agreements with 65 system operators, including a provider of cable television services that has 50,000 units in the New York City metropolitan area. In the hotel market, the distribution of DIRECTV is also growing, in part through an agreement with On Command Video Corporation. By the end of 1996, DIRECTV was available in more than 100,000 hotel and resort guest rooms.

In the restaurant, bar and nightclub market, DIRECTV had signed nearly 9,000 establishments by year-end 1996. And, to stimulate sales in the office market, DIRECTV offers three information and entertainment packages. To develop the airline market, DIRECTV teamed with Hughes-Avicom International, Inc. to demonstrate live DIRECTV broadcasts on selected Delta Airlines flights.



Programming for DIRECTV in Latin America is beamed to satellites from four broadcast centers located in the United States, Mexico, Brazil and Venezuela. DIRECTV offers subscribers more than 100 channels of the best international video and audio programming. Soccer programs are extremely popular.

New Services. In 1996, DIRECTV announced an agreement with Microsoft Corporation for a new PC-based home entertainment service that will use the Microsoft Windows operating sys-

The Disney Channel · ESPN · ESPN2 · C-SPAN2 · The Home Shopping Network · SCI-FI Channel · TBS Superstation

tem. Subscribers will be able to access not only all of the DIRECTV video programming but also interactive multimedia and data broadcast services. These include: selected World Wide Web sites; new multimedia magazines; financial, news, weather and sports tickers; data-enhanced television programming; and games. DIRECTV is targeting the 1997 holiday shopping season for an introduction of these innovative services.

In 1996, DIRECTV not only succeeded in nearly doubling its U.S. subscriber base but also continued to receive an extraordinarily high 95 percent programming satisfaction rating from subscribers.

Latin America and the Caribbean

In mid-1996, DIRECTV became the first DTH service in Latin America and the Caribbean – a 22-nation region that has 90 million television households. Galaxy Latin America (GLA) is a partnership of Hughes and leading communications companies based in Venezuela, Brazil and Mexico. By early 1997, GLA was providing DIRECTV to eight Latin American nations representing more than 70 percent of the potential market. GLA offers approximately 70 video channels and 30 audio channels of international programming in Portugese, Spanish and English.

With the launch of GLA's next, more powerful satellite in the fall of 1997, programming is expected to expand to more than 100 video channels, plus at least 40 channels of highly popular pay-per-view movies and sports.

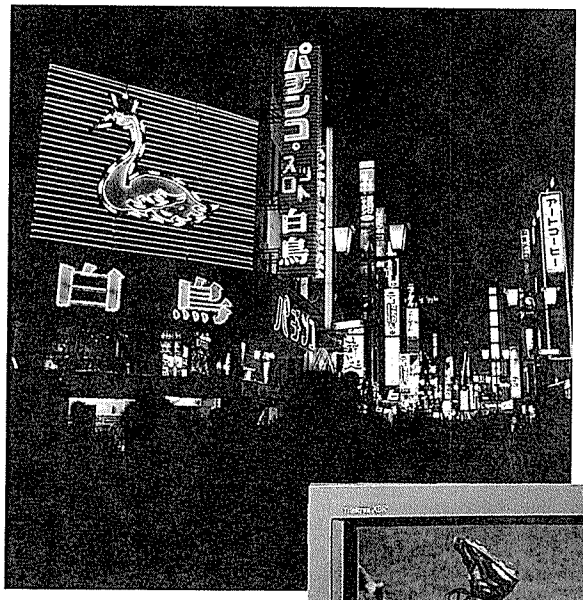
Japan

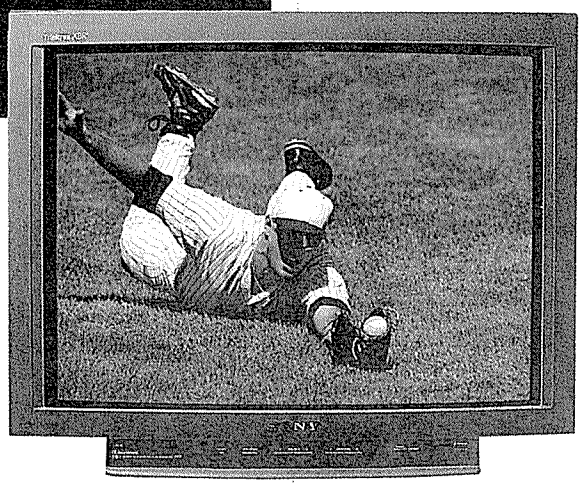
Within a year, a partnership of Hughes and leading Japanese companies is expected to make DIRECTV available to Japan's 44 million television homes, a market that has few viewing choices and is ripe for high-quality video and audio offerings as well as data offerings. DIRECTV Japan will offer up to 100 channels of hot-ticket sports events, blockbuster movies, popular Japanese programming, and audio programming.

Many Japanese consumers are already familar with DIRECTV's reputation for broad programming choices and excellent value, and the Hughes-led partnership is developing an array of customer-pleasing programs that should assure a warm welcome for DIRECTV on yet another continent.

Whether it is in the United States, Latin America or Japan, DIRECTV intends to aggressively grow its subscriber base and continuously increase subscriber value with outstanding programming choices and unrivaled customer service.

DIRECTV™ JAPAN





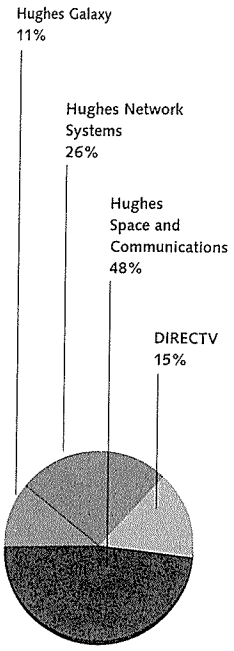
In Japan, DIRECTV is preparing a very competitive programming line-up. On the roster are sports – especially baseball – and movies.

TELECOMMUNICATIONS & SPACE: LOOKING AHEAD

Hughes' leadership in growing new businesses like DIRECTV and DirecPC lends confidence to the company's pursuit of future satellite-based global business opportunities. One example is its proposed SPACEWAY system, which may offer customers an array of multimedia services beginning at the turn of the century. The state-of-the-art HS 702 satellites that Hughes would use will incorporate technologies such as onboard digital processing, flexible antenna coverage and intersatellite links to provide excellent customer service and value.

Assuming that the transactions announced in January 1997 are completed (see page 28 for further details), the company's telecommunications and space businesses will derive a double benefit. First, a sharpened management focus on this high-potential area; and second, substantial additional financial resources to fund growth opportunities.

In future years, Hughes expects to achieve rapid growth by building upon its leadership in satellites and digital wireless systems. It also will seek growth in new telecommunications services and continue moving toward realizing its vision of a global Wireless Expressway that will bring people everywhere closer together through universal, mobile and fully interactive communications.

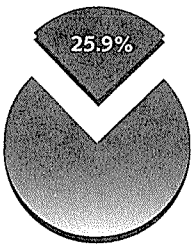


Percentage of 1996 Revenues by Business Unit

The following table sets forth selected pro forma data for the Telecommunications and Space segment.

	Years Ended December 31*		
(Amounts in millions, except percentages)	1996	1995	1994
Revenues	$4,114.9	$3,092.7	$2,596.2
Revenues as a percentage of Hughes Revenues	25.9%	20.9%	18.4%
Net Sales	$3,992.2	$3,075.8	$2,633.8
Operating Profit (1)	259.8	189.2	271.0
Operating Profit Margin (2)	6.5%	6.2%	10.3%
Identifiable Assets at Year-End	$4,406.7	$3,820.0	$3,217.8
Depreciation and Amortization	194.8	178.3	140.8
Capital Expenditures (3)	449.8	436.5	399.3

* The summary excludes purchase accounting adjustments related to GM's acquisition of Hughes Aircraft Company. Certain amounts for 1995 have been reclassified to conform with 1996 classifications.
(1) Net Sales less Total Costs and Expenses other than Interest Expense.
(2) Operating Profit as a percentage of Net Sales.
(3) Includes expenditures related to telecommunications and other equipment amounting to $187.9 million, $274.6 million and $255.8 million, respectively.

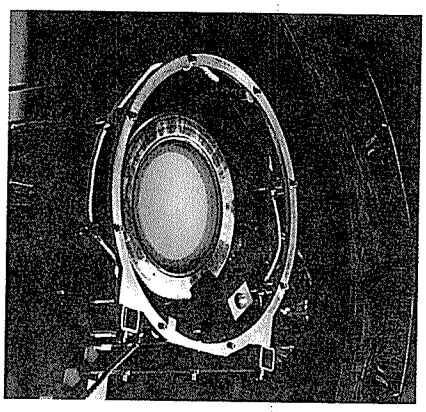


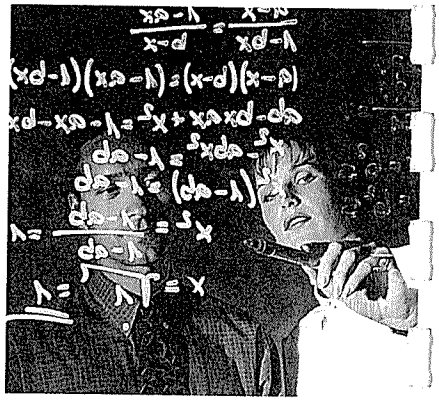
Percentage of Hughes Revenues

RESEARCH & DEVELOPMENT

In 1996, Hughes Research Laboratories (HRL) focused on creating more robust space-based systems for telecommunications and defense. To meet both commercial and government demand for a highly advanced – yet cost-efficient – global space-based communications architecture, HRL devoted significant attention to four critical areas: (1) ion propulsion; (2) microelectronics; (3) Internet access via satellite; and (4) micromechanical sensors.

Until now, commercial satellites have been thrust into space using liquid-fueled engines that add considerable mass. By developing an electronic xenon ion propulsion system (XIPS), HRL has reduced a satellite's propellant requirements to one-tenth of current mass.





The blue glow comes from ions accelerated from the discharge chamber of the Xenon Ion Propulsion System, a thruster that will keep Hughes-built satellites in their proper orbital locations. At HRL, where the system was created, the qualification thruster is undergoing life tests.

The first XIPS-propelled commercial satellite will be the Hughes-built PAS-5, scheduled for launch in 1997.

One way to improve the cost-efficiency of the overall satellite system is to reduce the size and cost of the ground equipment that receives the satellite signal. HRL's microelectronics group is developing advanced receivers that combine on a single chip both analog-to-digital converters and low-noise amplifiers.

In addition to enhancing transmission quality, digital technology reduces the weight and power consumption of both satellites and ground terminals. Low-noise amplifiers, in turn, increase antenna sensitivity, enabling use of a smaller, less-expensive ground terminal – like the 18-inch DIRECTV dish or a handheld mobile phone.

More powerful and efficient satellites, along with low-cost, high-performance user terminals, are two necessities for universal Internet access. A third is open standards. HRL is working to establish new algorithms that will enable true global interconnectivity.

Concurrently, HRL is designing a flow congestion control algorithm for unimpeded interactive multimedia exchange by satellite. This will facilitate new, real-time global video, voice, and data collaborations in business, education, and medicine.

In the area of space-based defense communications, speed is the single-most crucial requirement for detecting incoming threats and improving reaction times. Motion-detecting sensors called micromechanical accelerometers help satellites detect such threats. In 1996, HRL conducted pioneering research in "tunneling-effect" fabrication technology – yielding a superior micromechanical accelerometer.

Just as human brainwaves leap across synapses to speed communication, the HRL-patented tunneling device allows current to flow between two unconnected pieces of metal. Satellites stabilized by radiation-hardened, tunneling-effect accelerometers can more quickly detect the launch, position, and velocity of incoming missiles or torpedoes.

Assuming that the transactions announced in January 1997 are completed (see page 28 for further details), HRL will be jointly owned by Hughes Electronics and Raytheon Company.

OPERATING AND FINANCIAL REVIEW

MANAGEMENT'S DISCUSSION AND ANALYSIS

The following discussion excludes purchase accounting adjustments related to General Motors' acquisition of Hughes Aircraft Company (see Supplemental Data beginning on page 37).

Statements made concerning expected financial performance, ongoing financial performance strategies, and possible future action which Hughes intends to pursue to achieve strategic objectives for each of its three principal business segments (including the planned transactions described below) constitute forward-looking information. The implementation of these strategies and of such future actions and the achievement of such financial performance are each subject to numerous conditions, uncertainties and risk factors, and, accordingly, no assurance can be given that Hughes will be able to successfully accomplish its strategic objectives or achieve such financial performance. The principal important risk factors which could cause actual performance and future actions to differ materially from the forward-looking statements made herein include economic conditions, product demand and market acceptance, government action, competition, ability to achieve cost reductions, GM's global sourcing strategy with respect to automotive electronics, General Motors' North American Operations (GM-NAO) volumes, technological risk, interruptions to production attributable to causes outside Hughes' control, and the receipt of various approvals with respect to the planned transactions.

GENERAL

On January 16, 1997, GM and Hughes announced a series of planned transactions designed to address strategic challenges and unlock stockholder value in the three Hughes business segments. The transactions would include the tax-free spin-off of the Hughes defense business to holders of GM's $1-⅔ par value and Class H common stocks, followed immediately by the tax-free merger of that business with Raytheon Company (Raytheon). The spin-off is not being proposed in a manner that would result in the recapitalization of Class H common stock into $1-⅔ par value common stock at a 120% exchange ratio, as currently provided for under certain circumstances in the General Motors Restated Certificate of Incorporation, as amended. At the same time, Delco Electronics, the automotive electronics subsidiary of Hughes, would be transferred from Hughes to GM's Delphi Automotive Systems unit. Finally, GM's Class H common stock would be recapitalized into a tracking stock linked to the telecommunications and space business of Hughes. After the spin-off and tax-free merger of the Hughes defense business with Raytheon, there would be outstanding two classes of Raytheon/Hughes defense common stock: Class A common stock, approximately 103 million shares of which would have been distributed to GM's $1-⅔ par value and Class H stockholders in the spin-off, and Class B common stock which would be exchanged for Raytheon common stock on a one-for-one share basis in the merger. The common stock of the Hughes defense business that would be distributed to GM common stockholders would represent approximately 30% of the stock of the combined company. The distribution of stock in the Hughes defense business to holders of GM Class H and $1-⅔ par value common stock would be in a ratio that would be determined by GM's Board of Directors to be fair to both classes of stockholders and would reflect: (1) a pro rata spin-off of the Hughes defense business to holders of GM Class H and $1-⅔ par value common stock; (2) a partial reallocation of the Hughes defense business from holders of GM $1-⅔ par value common stock to holders of Class H common stock in exchange for the derivative interest in the earnings of Delco currently held by the Class H stockholders; and (3) other effects of and factors relating to the planned transactions. Such a distribution ratio will be set by

GM's Board of Directors at a time closer to GM's distribution of the solicitation statement/prospectus pursuant to which GM stockholders will be asked to approve the transactions.

The spin-off of the Hughes defense business and merger with Raytheon would have an indicated total value of $9.5 billion to GM and its common stockholders based on stock prices as of the announcement date. That value would consist of a combination of approximately $4.7 billion of total debt obligations of the Hughes defense business at the time of the merger, and $4.8 billion of indicated value of Hughes defense stock to be distributed to common stockholders (after giving affect to the merger based on the market price of Raytheon common stock as of the announcement date of $47.00). The merger terms provide that the total debt of the Hughes defense business will be adjusted to reflect variations in the average market price of Raytheon stock, subject to specified limits, so that the two components of value will total $9.5 billion so long as such market price is in a range of between $44.42 and $54.29 per share. Substantially all of such debt would be incurred immediately prior to the spin-off, with the proceeds used principally to fund the telecommunications and space business of Hughes.

Consummation of the transactions described previously is subject to various contingencies, including regulatory clearances and approval by GM common stockholders. Additional information regarding these planned transactions is included in Note 18 to the Consolidated Financial Statements. These planned transactions had no impact on 1996 financial results.

The planned transactions described previously are intended to result in the achievement of several strategic objectives. The merger of the Hughes defense business with Raytheon would create a stronger defense electronics company which would be able to more effectively compete for new business in an industry where significant consolidation is occurring. At the same time, the integration of Delco Electronics and Delphi Automotive Systems would combine advanced electronics capability with components and systems expertise, and would be expected to result in reduced costs. Hughes Electronics would continue to hold and operate the telecommunications and space business. This would allow Hughes management to focus on this business segment and the capital infusion would allow it to take advantage of growth opportunities in this very competitive industry. The strategy of this business is to continue to expand its offerings from being primarily a supplier of hardware to becoming a provider of hardware and video, voice, and data services worldwide. This strategy requires significant current and future investment in order to maintain and enhance the segment's competitive position with respect to existing products and to take advantage of the growth opportunities presented, as well as the formation of strategic alliances to compete in the very competitive global marketplace.

RESULTS OF OPERATIONS

Revenues. Hughes reported record revenues of $15,917.9 million in 1996, a 7.5% increase over 1995. Revenues in 1995 were $14,807.9 million, an increase of 5.0% compared with 1994 revenues of $14,099.4 million. The increase in 1996 revenues was largely the result of continued growth in the Telecommunications and Space segment and increased revenues in the Aerospace and Defense Systems segment, partially offset by lower Automotive Electronics revenues caused in part by work stoppages at various GM production locations during the year. 1995 revenue growth was driven by the Automotive Electronics and Telecommunications and Space segments. (Pro forma segment information is presented on page 39).

TELECOMMUNICATIONS AND SPACE - Revenues in the Telecommunications and Space segment were $4,114.9 million in 1996, a 33.1% increase over 1995, and $3,092.7 million in 1995, a 19.1% increase over 1994 revenues of $2,596.2 million. The increases in both years were primarily due to continued expansion of the DIRECTV® subscriber base, increased sales of commercial satellites and cellular communications equipment, and increased video distribution revenues from Galaxy® satellite transponders.

AUTOMOTIVE ELECTRONICS - Revenues in the Automotive Electronics segment decreased 3.8% in 1996 to $5,350.8 million from $5,561.3 million in 1995. The decline was principally due to a decrease in GM vehicles produced in the United States and Canada (excluding joint ventures) primarily related to the United and Canadian Auto Workers' (UAW and CAW, respectively) strikes offset, in part, by an increase in Hughes-supplied electronic content in these vehicles from $888 per vehicle to $906 per vehicle and an increase in international and non-GM-NAO sales from $841 million in 1995 to $1,010 million in 1996. Revenues increased $339.6 million, or 6.5%, in 1995 from $5,221.7 million in 1994. 1995 revenue growth was attributed to an increase in Hughes-supplied electronic content in GM vehicles produced in North America to $888 in 1995 from $857 in 1994, and an increase in sales to international and non-GM-NAO customers to $841 million in 1995 from $672 million in 1994. Vehicle production remained relatively unchanged between 1994 and 1995.

AEROSPACE AND DEFENSE SYSTEMS - Aerospace and Defense Systems segment revenues were $6,338.4 million in 1996, a 6.6% increase from 1995 revenues of $5,945.4 million. The growth was primarily attributable to additional revenues resulting from the December 1995 acquisition of Hughes Defense Communications (formerly Magnavox Electronic Systems Company) and the build-up of newer programs including Desktop V, Wide Area Augmentation System and Land Warrior. 1995 revenues decreased $78.2 million, or 1.3%, from 1994 revenues of $6,023.6 million. The decline was principally due to lower production rates on several missile programs, partially offset by the additional revenues related to the 1995 acquisition of CAE-Link Corporation.

OTHER INCOME - Included in revenues is other income of $173.8 million, $93.6 million, and $37.1 million for 1996, 1995, and 1994, respectively. 1996 includes the $120.3 million pre-tax gain from the sale of a 2.5% equity interest in DIRECTV to AT&T. 1995 and 1994 included pre-tax charges of $40.0 million and $35.0 million, respectively, for the estimated losses on disposition of certain non-strategic business units. Also included in 1995 was $35.9 million of revenue earned for providing services to GM.

Operating Profit. Operating profit was $1,594.3 million in 1996, $1,667.3 million in 1995, and $1,630.4 million in 1994. Operating profit margins, as a percentage of net sales, were 10.1%, 11.3%, and 11.6%, in 1996, 1995, and 1994, respectively. The decline in profitability in 1996 compared to 1995 was primarily attributable to the lower GM production volumes related to the UAW and CAW strikes and continued price reductions in the Automotive Electronics segment offset in part, by the increased profitability in the Telecommunications and Space segment. Also offsetting the 1996 decline in profitability were the reduced operating losses at Hughes-Avicom International, Inc. Operating profit improved in 1995 largely due to a continued emphasis on cost reduction efforts, most notably in the Automotive Electronics and Aerospace and Defense Systems seg-

ments, and the overall growth in revenues, partially offset by a planned increase in operating expenses associated with DIRECTV. The 1995 operating profit margin decline was attributable primarily to the DIRECTV operating expense increase which more than offset the margin improvements in the two other segments.

TELECOMMUNICATIONS AND SPACE - Operating profit for 1996 was $259.8 million, a 37.3% increase from $189.2 million reported in 1995. The 1996 increase was largely a result of the revenue increases previously discussed and reduced mobile telephony satellite development costs offset, in part, by operating losses related to the start of service by the Company's DIRECTV business in Latin America. Operating profit in 1995 decreased 30.2% from 1994 operating profit of $271.0 million. The 1995 decline in operating profit was principally due to increased operating expenses associated with the expansion of DIRECTV and increased development costs on a geostationary satellite mobile telephony product line. Operating profit margins were 6.5% in 1996, 6.2% in 1995, and 10.3% in 1994. After 1996, operating profit margins in the Telecommunications and Space segment are expected to increase as DIRECTV's subscriber base grows.

AUTOMOTIVE ELECTRONICS - In 1996, operating profit was $654.0 million compared with $869.0 million in 1995. The decline was mostly due to the reduced production volumes, continued price reductions resulting from competitive pricing in connection with GM's global sourcing initiative, and the impact from continued investment in international expansion. 1995 operating profit increased $74.2 million, or 9.3%, as compared to 1994 operating profit of $794.8 million. The improvement in profitability in 1995 was attributable not only to increased revenues, but also an aggressive cost reduction program.

As the principal supplier of automotive electronics to General Motors' North American Operations unit (GM-NAO), Hughes' sales of automotive electronics will continue to be heavily dependent on General Motors production of vehicles in North America, the level of Hughes-supplied electronic content per GM vehicle, the price of such electronics, and the competitiveness of Hughes' product offerings. In this regard, it is anticipated that competition through GM's global purchasing process will negatively impact Hughes' sales to GM-NAO and result in a decline in the portion of GM-NAO automotive electronics supplied by Hughes. The segment's strategy is to aggressively reduce costs in order to minimize the effect of continuing price reductions and to manage the loss of GM-NAO market share by offering competitive products which increase electronic functionality through a focus on safety, security, communications, and convenience. The segment will also seek to improve its systems capability and cost competitiveness both internally and by developing key design, manufacturing, and marketing alliances and other relationships with mechanical and electrical automotive component suppliers.

The international market for automotive electronic products is also highly competitive. The segment has refined its strategy for this market to focus on profitable growth as well as increased market share, and accordingly, will seek to enhance the cost competitiveness of its international operations.

The competitive environment described above is making it increasingly difficult to maintain the level of operating profit margins realized in this segment in the past. Beyond 1996, operating margins are expected to be lower than recent historical levels as price and volume declines associated with GM's global sourcing initiatives more than offset Hughes' ability to achieve cost reductions. In response to the

increased pressure on margins and to enhance future competitiveness, management will take action to reduce the cost structure of the business. As a result of the factors described above, the operating margin is expected to decline further in 1997 to low double digits, and then show modest improvement in 1998 and 1999.

AEROSPACE AND DEFENSE SYSTEMS - Operating profit was $694.7 million in 1996 compared to $688.0 million in 1995 and $663.6 million in 1994. The operating profit margin for 1996 declined to 11.0% from 11.7% in 1995 primarily due to a continued shift from production programs to engineering and development programs, and growth in information systems and services revenues. The operating profit margin for 1995 increased to 11.7% from 11.0% largely due to a provision taken in 1994 for certain air traffic control contracts, partly offset by reduced revenues in 1995. Future operating profits could be adversely impacted by further reductions in the U.S. defense budget.

Costs and Expenses. Selling, general, and administrative expenses were $1,505.6 million in 1996, $1,234.2 million in 1995, and $1,018.3 million in 1994. The increases were principally due to the continued expansion of DIRECTV, both in the U.S. and internationally, and increased international sales activities at Delco Electronics.

The effective income tax rate was 34.5%, 36.8%, and 34.7% in 1996, 1995, and 1994, respectively. The decrease in the effective income tax rate in 1996 was due primarily to the favorable resolution of certain tax contingencies while the effective income tax rate in 1994 was favorably impacted by the recognition of capital loss carryforward benefits.

Earnings. Hughes' 1996 earnings were $1,151.2 million, or $2.88 per share of GM Class H common stock, compared with 1995 earnings of $1,107.8 million, or $2.77 per share, and 1994 earnings of $1,049.2 million, or $2.62 per share. Earnings in 1994 included the unfavorable effect of an accounting change for postemployment benefits. Excluding the accounting change, Hughes' earnings in 1994 would have been $1,079.6 million, or $2.70 per share.

Backlog. The 1996 year-end backlog of $15,100 million increased from $14,929 million at the end of 1995, primarily due to record backlog in the Aerospace and Defense Systems segment. 1995 year-end backlog increased from the $13,210 million at the end of 1994, primarily due to increased satellite orders in the Telecommunications and Space segment. A portion of the backlog is subject to appropriation decisions by the U.S. Government subsequent to award. In addition, Hughes' contracts with the U.S. Government are subject to termination by the Government either for its convenience or for default by Hughes. Sales to the U.S. Government may be affected by changes in acquisition policies, budget considerations, changing concepts in national defense, spending priorities, and other factors that are outside of Hughes' control.

Special Provision for Restructuring. In 1992, Hughes recorded a special charge of $749.4 million (after-tax), for the restructuring of Hughes' operations. The special charge comprehended a reduction of Hughes' worldwide employment, a major facilities consolidation, and a reevaluation of certain business lines that no longer met Hughes' strategic objectives. Restructuring costs of $92.4 million, $208.8 million, and $228.3 million were charged against the reserve during 1996, 1995, and 1994, respectively. In addition, in 1994, the restructuring reserve was increased by $35.0 million, primarily due to changes in the estimated loss on disposition of a subsidiary. The remaining liability at December 31, 1996 of $42.0 million relates primarily to reserves for excess

acilities and other site consolidation costs. Approximately $40.7 million of this amount will require future cash outflows. It is expected that these costs will be expended predominantly during the next year.

Accounting Changes. Effective January 1, 1996, Hughes adopted Statement of Financial Accounting Standards (SFAS) No. 123, Accounting for Stock-Based Compensation, and as permitted by this standard, will continue to apply the recognition and measurement principles of Accounting Principles Board Opinion No. 25 to its stock options. Hughes has calculated the pro forma effects of applying SFAS No. 123 and determined that such effects are not significant in relation to reported net income and earnings per share.

Effective January 1, 1996, Hughes also adopted SFAS No. 121, Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of. This Statement establishes accounting standards for the impairment of long-lived assets, certain identifiable intangibles, and goodwill related to those assets to be held and used, and for long-lived assets and certain identifiable intangibles to be disposed of. The adoption of this new accounting standard did not have a material effect on Hughes' consolidated operating results or financial position.

Effective January 1, 1994, Hughes adopted SFAS No. 112, Employers' Accounting for Postemployment Benefits. The Statement requires accrual of the costs of benefits provided to former or inactive employees after employment, but before retirement. The unfavorable cumulative effect of adopting this standard was $30.4 million, net of income taxes of $19.2 million, or $0.08 per share of GM Class H common stock. The charge primarily related to extended disability benefits which are accrued on a service-driven basis.

LIQUIDITY AND CAPITAL RESOURCES

Cash and Cash Equivalents. Cash and cash equivalents were $1,161.3 million at December 31, 1996, an increase of $21.8 million from December 31, 1995. Operating activities generated cash of $1,199.4 million as Hughes achieved another year of record earnings. Additional cash was provided by proceeds from the sale and leaseback of satellite transponders with General Motors Acceptance Corporation, and proceeds from the sale of a minority interest in DIRECTV of $137.5 million. The increases in cash were offset by the cash used to fund capital expenditures, repay notes and loans payable and pay dividends to General Motors.

In 1995, cash and cash equivalents decreased $362.3 million to $1,139.5 million at December 31, 1995, from $1,501.8 million at December 31, 1994. Operating activities generated cash of $986.2 million, however, cash used to fund capital expenditures, pay dividends to General Motors, and acquire new businesses more than offset the cash generated by operating activities.

In the third quarter of 1996, Hughes reported that cash flows in 1997 and beyond were expected to be negatively impacted by a change in the credit terms between Hughes and GM-NAO for purchases of automotive electronics. With the announcement of the planned transactions in January 1997, (see Note 18 to the Consolidated Financial Statements), implementation of the change in credit terms has been deferred pending the consummation of such planned transactions.

Liquidity Measurement. As a measure of liquidity, the current ratio (ratio of current assets to current liabilities) was 1.69 at December 31, 1996, 1.58 at December 31, 1995, and 1.76 at December 31, 1994. The increase from 1995 to 1996 was principally due to the repayment of certain notes and loans payable.

The decrease from 1994 to 1995 was principally due to the decrease in cash described above and increases in the notes and loans payable balance, primarily caused by a loan related to an acquisition. (See Note 13 to the Consolidated Financial Statements.)

Property and Equipment. Property, net of accumulated depreciation, increased $147.4 million in 1996 while telecommunications and other equipment, net of accumulated depreciation, decreased $41.6 million, primarily due to the sale and leaseback of GIIIR which more than offset additional expenditures related to the Galaxy satellite fleet.

Expenditures for property and equipment were $652.3 million in 1996 compared with $545.7 million and $490.5 million in 1995 and 1994, respectively. Management anticipates that capital expenditures in 1997 will increase approximately $100 million over 1996 and will be financed primarily from cash provided by operating activities.

Telecommunications and other equipment expenditures were $187.9 million in 1996 compared with $274.6 million and $255.8 million in 1995 and 1994, respectively. Management anticipates that telecommunications and other equipment expenditures in 1997 will increase significantly compared with 1996 and will be financed primarily from cash provided by operating activities.

TELECOMMUNICATIONS AND SPACE - Capital expenditures, including expenditures related to telecommunications and other equipment, increased to $449.8 million in 1996 from $436.5 million in 1995 and $399.3 million in 1994. The 1996 capital expenditures increase reflects additions to the Galaxy satellite fleet and construction of the California Broadcast Center, an uplink facility that supports Hughes' DIRECTV business in Latin America. The increase in 1995 was due primarily to additions to the Galaxy satellite fleet.

AUTOMOTIVE ELECTRONICS - Capital expenditures decreased to $196.0 million in 1996, compared with $264.7 million in 1995, and $166.4 million in 1994. The decrease in the 1996 capital spending reflects the impact of delays in engineering capital expenditures and the higher than normal level of expenditures in 1995. The increased capital spending in 1995 reflects expenditures for additional program requirements related to new product changes associ ated with the 1996 model year combined with a decrease in tooling cost recoveries.

AEROSPACE AND DEFENSE SYSTEMS - Capital expenditures in the Aerospace and Defense Systems segment for 1996, 1995, and 1994 were $171.1 million, $109.8 million, and $159.5 million, respectively. The 1996 increase relates to capital expenditures to support expanding business requirements. The 1995 decrease was due to the high level of expenditures in 1994 related to the consolidation of facilities in an effort to increase the operational efficiencies of manufacturing and engineering activities.

Debt and Capitalized Leases. Long-term debt and capitalized leases were $34.5 million at December 31, 1996, a decrease from $258.8 million at December 31, 1995, and $353.5 million at Decembe 31, 1994, reflecting scheduled principal repayments and the reclassification of certain amounts to current liabilities. The ratio of long-term debt and capitalized leases to the total of such debt and pro forma stockholder's equity decreased to 0.5% in 1996 from 4.4% in 1995 and 6.6% in 1994.

As discussed further, additional debt will be incurred in conjunction with the PanAmSat merger. It is anticipated that a portion of this debt would be repaid from cash expected to be received pursuant to the planned transactions. (See Note 18 to the Consolidated Financial Statements.)

Other Balance Sheet Items. In evaluating both its pension and retiree medical liabilities, Hughes recognizes the impact of changes in long-term interest rates by adjusting the discount rate used in determining the actuarial present values of the projected benefit obligations. In 1996, the weighted-average discount rate for Hughes' non-automotive pension obligations increased from 7.25% to 7.5% and the weighted-average discount rate for Hughes' other postretirement benefits increased from 7.25% to 7.56%.

Acquisitions and Divestitures. In December 1996, Hughes announced that it had reached an agreement to acquire the Marine Systems Division of Alliant Techsystems, Inc. for $141.0 million in cash. The Marine Systems Division is a leader in lightweight torpedo manufacturing and the design and manufacturing of underwater surveillance, sonar and mine warfare systems. The acquisition was completed in the first quarter of 1997.

In September 1996, Hughes and PanAmSat Corporation entered into an agreement to merge their respective satellite services operations into a new publicly-held company. Hughes would contribute its Galaxy satellite services business in exchange for a 71.5% interest in the new company. Current PanAmSat stockholders would receive a 28.5% interest in the new company and $1.5 billion in cash. Such cash consideration and other funds required to consummate the merger are expected to be funded by new debt financing totaling $1.725 billion. This debt financing is expected to be provided by Hughes, which currently intends to borrow such funds from General Motors.

For accounting purposes, this transaction would be treated as a partial sale of the Galaxy business by Hughes and would result in a one-time, nonrecurring gain. The amount of this gain depends on several variables, but is expected to be between $400 and $600 million before tax. PanAmSat is a leading provider of international satellite services. The transaction, which is contingent upon receiving certain regulatory approvals, is expected to close during the second quarter of 1997.

In March 1996, Hughes sold a 2.5% equity interest in DIRECTV, a wholly-owned subsidiary of Hughes, to AT&T for $137.5 million, with options to increase their ownership interest under certain conditions. The sale resulted in a $120.3 million pre-tax gain which is included in other income.

In February 1995, Hughes completed the acquisition of CAE-Link Corporation, an established supplier of simulation, training, and technical services, primarily to the U.S. military and NASA, for $176.0 million. In December 1995, Hughes acquired Magnavox Electronic Systems Company, a leading supplier of military tactical communications, electronic warfare, and command and control systems, for $382.4 million

During 1995, Hughes divested several non-strategic enterprises resulting in aggregate proceeds of approximately $127.2 million and a net gain of approximately $21.9 million. Also in 1995, Hughes recorded a $40.0 million charge for the estimated loss on disposition of a business unit and completed the divestiture of Hughes LAN Systems, for which a pre-tax charge of $35.0 million was taken in 1994.

Dividend Policy. As discussed in Note 7 to the Consolidated Financial Statements, it is GM's current policy to pay aggregate annual cash dividends on the GM Class H common stock approximately equal to 35% of the Available Separate Consolidated Net Income of Hughes for the prior year. In January 1997, the Board of Directors of GM increased the quarterly dividend on GM Class H common stock from $0.24 per share to $0.25 per share. It is anticipated that if the previously described Hughes transactions are consummated, the General Motors Board of Directors will adopt a

dividend policy relating to the new Class H common stock which the Board deems to be appropriate in light of the capital needs and growth opportunities of the Hughes telecommunications and space business and generally commensurate with that of other companies in the telecommunications and space business having similar capital needs and growth opportunities.

Security Ratings. Hughes' security ratings are tied to the security ratings of General Motors.

In October 1996, Standard & Poor's Ratings Services, a division of McGraw-Hill Companies, Inc. (S&P), revised its outlook on Hughes from stable to developing as a result of the uncertainty with respect to GM's investment strategy related to Hughes. S&P indicated that the developing outlook reflects the possibility that if a significant change in the relationship between GM and Hughes were to occur, the credit quality of Hughes could be either favorably or adversely affected, depending upon the nature of the transaction pursued.

In November 1996 and January 1997, S&P affirmed its long-term debt rating of Hughes at A-. The S&P A- credit rating is the seventh highest within the 10 investment grade ratings available from S&P for long-term debt, based on a strong capability to pay interest and repay principal, although somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than debt in higher rated categories. Additionally, S&P also affirmed its A.2 rating on Hughes' commercial paper. S&P's ratings outlook for Hughes remains developing.

In September 1996, Moody's Investors Service, (Moody's), confirmed the long-term credit rating of Hughes at A.3, seventh highest within the 10 investment grade ratings available from Moody's for long-term debt. Moody's defines A.3 bonds as having "upper-medium grade" quality. Moody's rating for Hughes' commercial paper remained unchanged at P-2. The rating indicates that the issuer has a strong ability for repayment relative to other issuers.

Following GM's and Hughes' January 1997 announcement with respect to the Hughes business segments (see Note 18 to the Consolidated Financial Statements), both S&P and Moody's reaffirmed their current ratings and outlook for Hughes' securities. Moody's, however, put Hughes' ratings on review for possible downgrade.

Debt ratings by the various rating agencies reflect each agency's opinion of the ability of issuers to repay debt obligations punctually. Lower ratings generally result in higher borrowing costs. A security rating is not a recommendation to buy, sell, or hold securities and may be subject to revision or withdrawal at any time by the assigning rating organization. Each rating should be evaluated independently of any other rating.

SUPPLEMENTAL DATA

The Consolidated Financial Statements reflect the application of purchase accounting adjustments as described in Note 1 to the Consolidated Financial Statements. However, as provided in GM's Certificate of Incorporation, the earnings attributable to GM Class H common stock for purposes of determining the amount available for the payment of dividends on GM Class H common stock specifically excludes such adjustments. More specifically, amortization and disposal of these intangible assets associated with GM's purchase of Hughes Aircraft Company amounted to $122.3 million in 1996, $159.5 million in 1995, and $123.8 million in 1994. The 1995 amount included a $36.1 million charge, included in other income, for the write-off of such purchase accounting adjustments related to the disposition of certain non-strategic business units. Such amounts were excluded from the earnings available for the payment of dividends on GM Class H common stock and were charged against the earnings available for the payment of dividends on GM's $1-⅔ par value stock. Unamortized purchase accounting adjustments associated with GM's purchase of Hughes Aircraft Company were $2,723.5 million, $2,845.8 million, and $3,005.3 million at December 31, 1996, 1995, and 1994, respectively.

In order to provide additional analytical data to the users of Hughes' financial information, supplemental data in the form of unaudited summary pro forma financial data are provided. Consistent with the basis on which earnings of Hughes available for the payment of dividends on the GM Class H common stock is determined, the pro forma data exclude purchase accounting adjustments related to General Motors' acquisition of Hughes Aircraft Company. Included in the supplemental data are certain financial ratios which provide measures of financial returns excluding the impact of purchase accounting adjustments. The pro forma data are not presented as a measure of GM's total return on its investment in Hughes.

UNAUDITED SUMMARY PRO FORMA FINANCIAL DATA*

	(Dollars in Millions Except Per Share Amounts)	YEARS ENDED DECEMBER 31, 1996	1995	1994
PRO FORMA CONDENSED CONSOLIDATED STATEMENT OF INCOME	Total Revenues	$15,917.9	$14,807.9	$14,099.4
	Total Costs and Expenses	14,161.0	13,054.5	12,447.0
	Income before Income Taxes	1,756.9	1,753.4	1,652.4
	Income taxes	605.7	645.6	572.8
	Income before cumulative effect of accounting change	1,151.2	1,107.8	1,079.6
	Cumulative effect of accounting change	-	-	(30.4)
	Earnings Used for Computation of Available Separate Consolidated Net Income	$ 1,151.2	$ 1,107.8	$ 1,049.2
	Earnings Attributable to General Motors Class H Common Stock on a Per Share Basis			
	Before cumulative effect of accounting change	$2.88	$2.77	$2.70
	Cumulative effect of accounting change	-	-	(0.08)
	Net earnings attributable to General Motors Class H Common Stock	$2.88	$2.77	$2.62

	(Dollars in Millions)	DECEMBER 31, 1996	1995
PRO FORMA CONDENSED CONSOLIDATED BALANCE SHEET	**ASSETS**		
	Total Current Assets	$ 7,079.0	$ 6,810.8
	Property - Net	2,886.6	2,739.2
	Telecommunications and Other Equipment - Net	1,133.5	1,175.1
	Intangible Assets, Investments, and Other Assets - Net	2,657.5	2,403.5
	Total Assets	$13,756.6	$13,128.6
	Liabilities and Stockholder's Equity		
	Total Current Liabilities	$ 4,199.6	$ 4,308.8
	Long-Term Debt and Capitalized Leases	34.5	258.8
	Postretirement Benefits Other Than Pensions, Other Liabilities, and Deferred Credits	3,066.1	2,881.1
	Total Stockholder's Equity (1)	6,456.4	5,679.9
	Total Liabilities and Stockholder's Equity (1)	$13,756.6	$13,128.6

* The summary excludes purchase accounting adjustments related to GM's acquisition of Hughes Aircraft Company.

(1) General Motors' equity in its wholly-owned subsidiary, Hughes. Holders of GM Class H common stock have no direct rights in the equity or assets of Hughes, but rather have rights in the equity and assets of GM (which includes 100% of the stock of Hughes).

Pro Forma Selected Segment Data

(Dollars in Millions)	YEARS ENDED DECEMBER 31, 1996	1995	1994
TELECOMMUNICATIONS AND SPACE			
Revenues	$4,114.9	$3,092.7	$2,596.2
Revenues as a percentage of Hughes Revenues	25.9%	20.9%	18.4%
Net Sales	$3,992.2	$3,075.8	$2,633.8
Operating Profit (1)	259.8	189.2	271.0
Operating Profit Margin (2)	6.5%	6.2%	10.3%
Identifiable Assets at Year-End	$4,406.7	$3,820.0	$3,217.8
Depreciation and Amortization	194.8	178.3	140.8
Capital Expenditures (3)	449.8	436.5	399.3
AUTOMOTIVE ELECTRONICS			
Revenues	$5,350.8	$5,561.3	$5,221.7
Revenues as a percentage of Hughes Revenues	33.6%	37.6%	37.0%
Net Sales	$5,311.3	$5,479.7	$5,170.6
Operating Profit (1)	654.0	869.0	794.8
Operating Profit Margin (2)	12.3%	15.9%	15.4%
Identifiable Assets at Year-End	$3,394.9	$3,267.4	$3,429.8
Depreciation and Amortization	195.9	151.4	142.2
Capital Expenditures	196.0	264.7	166.4
AEROSPACE AND DEFENSE SYSTEMS			
Revenues	$6,338.4	$5,945.4	$6,023.6
Revenues as a percentage of Hughes Revenues	39.8%	40.2%	42.7%
Net Sales	$6,331.5	$5,899.7	$6,007.3
Operating Profit (1)	694.7	688.0	663.6
Operating Profit Margin (2)	11.0%	11.7%	11.0%
Identifiable Assets at Year-End	$5,296.9	$5,369.7	$4,262.4
Depreciation and Amortization	157.6	132.0	158.5
Capital Expenditures	171.1	109.8	159.5
CORPORATE AND OTHER			
Operating Loss (1)	$ (14.2)	$ (78.9)	$ (99.0)
Identifiable Assets at Year-End	658.1	671.5	935.2

* The summary excludes purchase accounting adjustments related to GM's acquisition of Hughes Aircraft Company. Certain amounts for 1995 have been reclassified to conform with 1996 classifications.

(1) Net Sales less Total Cost and Expenses other than Interest Expense.

(2) Operating Profit as a percentage of Net Sales.

(3) Includes expenditures related to telecommunications and other equipment amounting to $187.9 million, $274.6 million, and $255.8 million, respectively.

UNAUDITED SUMMARY PRO FORMA FINANCIAL DATA*
(concluded)

	(Dollars in Millions Except Per Share Amounts)	YEARS ENDED DECEMBER 31, 1996	1995	1994	1993	1992
PRO FORMA SELECTED FINANCIAL DATA	Operating profit (loss)	$1,594	$1,667	$1,630	$1,460	$ (194)
	Income (Loss) before income taxes and cumulative effect of accounting changes	$1,757	$1,753	$1,652	$1,494	$ (127)
	Earnings (Loss) used for computation of available separate consolidated net income (loss)**	$1,151	$1,108	$1,049	$ 922	$ (922)
	Average number of GM Class H dividend base shares (1)	399.9	399.9	399.9	399.9	399.9
	Stockholder's equity**	$6,456	$5,680	$4,971	$4,199	$3,562
	Dividends per share of GM Class H common stock	$0.96	$0.92	$0.80	$0.72	$0.72
	Working capital	$2,879	$2,502	$2,696	$2,165	$1,692
	Operating profit (loss) as a percent of net sales	10.1%	11.3%	11.6%	10.9%	(1.6%)
	Pre-tax income (loss) as a percent of net sales	11.2%	11.9%	11.8%	11.1%	(1.0%)
	Net income (loss) as a percent of net sales**	7.3%	7.5%	7.5%	6.9%	(7.6%)
	Return on equity** (2)	19.0%	20.8%	22.9%	23.7%	(21.9%)
	Income (Loss) before interest and taxes as a percent of capitalization (3)	27.0%	29.8%	32.9%	33.1%	(1.3%)
	Pre-tax return on total assets (4)	13.1%	14.0%	14.5%	13.6%	(1.2%)

* The summary excludes purchase accounting adjustments related to GM's acquisition of Hughes Aircraft Company.

** Includes unfavorable cumulative effect of accounting changes of $30.4 million in 1994 and $872.1 million in 1992.

(1) Class H dividend base shares is used in calculating earnings attributable to GM Class H common stock on a per share basis. This is not the same as the average number of GM Class H shares outstanding, which was 98.4 million in 1996.

(2) Earnings (Loss) Used for Computation of Available Separate Consolidated Net Income (Loss) divided by average stockholder's equity (General Motors' equity in its wholly-owned subsidiary, Hughes). Holders of GM Class H common stock have no direct rights in the equity or assets of Hughes, but rather have rights in the equity and assets of GM (which includes 100% of the stock of Hughes).

(3) Income (Loss) before interest and income taxes divided by average stockholder's equity plus average total debt.

(4) Income (Loss) before Income Taxes divided by average total assets.

RESPONSIBILITIES FOR CONSOLIDATED FINANCIAL STATEMENTS AND INDEPENDENT AUDITORS' REPORT

ESPONSIBILITIES FOR CONSOLIDATED FINANCIAL STATEMENTS

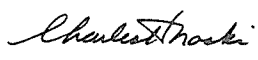
The following consolidated financial statements of Hughes Electronics Corporation and subsidiaries were prepared by management which is esponsible for their integrity and objectivity. The statements have been prepared in conformity with generally accepted accounting principles and, as such, include amounts based on judgments of management.

Management is further responsible for maintaining a system of internal accounting controls that is designed to provide reasonable assurance that he books and records reflect the transactions of the companies and that its established policies and procedures are carefully followed. Perhaps the .nost important feature in the system of control is that it is continually reviewed for its effectiveness and is augmented by written policies and guidelines, the careful selection and training of qualified personnel, and a strong program of internal audit.

Deloitte & Touche LLP, an independent auditing firm, is engaged to audit the consolidated financial statements of Hughes Electronics Corporation and subsidiaries and issue reports thereon. The audit is conducted in accordance with generally accepted auditing standards which comprehend the consideration of internal accounting controls and tests of transactions to the extent necessary to form an independent opinion on the inancial statements prepared by management. The Independent Auditors' Report appears below.

The Board of Directors, through its Audit Committee, is responsible for assuring that management fulfills its responsibilities in the preparation of the consolidated financial statements and engaging the independent auditors. The Committee reviews the scope of the audits and the accounting principles being applied in financial reporting. The independent auditors, representatives of management, and the internal auditors meet regularly separately and jointly) with the Committee to review the activities of each, to ensure that each is properly discharging its responsibilities, and to assess the effectiveness of the system of internal accounting controls. It is management's conclusion that the system of internal accounting controls at December 31, 1996 provides reasonable assurance that the books and records reflect the transactions of the companies and that its established policies and procedures are complied with. To ensure complete independence, Deloitte & Touche LLP has full and free access to meet with the Committee, without management representatives present, to discuss the results of the audit, the adequacy of internal accounting controls, and the quality of the financial reporting.

Chairman of the Board
and Chief Executive Officer



Vice Chairman
and Chief Financial Officer

Senior Vice President,
Treasurer and Controller

INDEPENDENT AUDITORS' REPORT

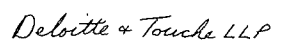
To The Stockholder and Board of Directors of Hughes Electronics Corporation:

We have audited the Consolidated Balance Sheet of Hughes Electronics Corporation and subsidiaries as of December 31, 1996 and 1995 and the related Consolidated Statement of Income and Available Separate Consolidated Net Income and Consolidated Statement of Cash Flows for each of the three years in the period ended December 31, 1996. These financial statements are the responsibility of Hughes Electronics Corporation's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such financial statements present fairly, in all material respects, the financial position of Hughes Electronics Corporation and subsidiaries at December 31, 1996 and 1995 and the results of their operations and their cash flows for each of the three years in the period ended December 31, 1996 in conformity with generally accepted accounting principles.

As discussed in Note 1 to the consolidated financial statements, effective January 1, 1994 Hughes Electronics Corporation changed its method of accounting for postemployment benefits.



Los Angeles, California
January 28, 1997

CONSOLIDATED STATEMENT OF INCOME AND AVAILABLE SEPARATE CONSOLIDATED NET INCOME

	(Dollars in Millions Except Per Share Amounts)	YEARS ENDED DECEMBER 31, 1996	1995	1994
REVENUES	Net sales			
	Outside customers	$10,661.5	$ 9,528.8	$ 9,108.7
	General Motors and affiliates	5,082.6	5,185.5	4,953.6
	Other income - net	173.8	57.5	37.1
	TOTAL REVENUES	15,917.9	14,771.8	14,099.4
COSTS AND EXPENSES	Cost of sales and other operating charges, exclusive of items listed below	12,083.9	11,325.1	10,943.4
	Selling, general, and administrative expenses	1,505.6	1,234.2	1,018.3
	Depreciation and amortization	560.3	487.7	470.2
	Amortization of GM purchase accounting adjustments related to Hughes Aircraft Company	122.3	123.4	123.8
	Interest expense - net	11.2	7.5	15.1
	TOTAL COSTS AND EXPENSES	14,283.3	13,177.9	12,570.8
	INCOME BEFORE INCOME TAXES	1,634.6	1,593.9	1,528.6
	Income taxes	605.7	645.6	572.8
	Income before cumulative effect of accounting change	1,028.9	948.3	955.8
	Cumulative effect of accounting change	—	—	(30.4)
	NET INCOME	1,028.9	948.3	925.4
	Adjustments to exclude the effect of GM purchase accounting adjustments related to Hughes Aircraft Company	122.3	159.5	123.8
	EARNINGS USED FOR COMPUTATION OF AVAILABLE SEPARATE CONSOLIDATED NET INCOME	$ 1,151.2	$ 1,107.8	$ 1,049.2
AVAILABLE SEPARATE CONSOLIDATED NET INCOME	Average number of shares of General Motors Class H Common Stock outstanding (in millions) (Numerator)	98.4	95.5	92.1
	Class H dividend base (in millions) (Denominator)	399.9	399.9	399.9
	Available Separate Consolidated Net Income	$ 283.3	$ 264.6	$ 241.6
EARNINGS ATTRIBUTABLE TO GENERAL MOTORS CLASS H COMMON STOCK ON A PER SHARE BASIS	Before cumulative effect of accounting change	$2.88	$2.77	$2.70
	Cumulative effect of accounting change	—	—	(0.08)
	Net earnings attributable to General Motors Class H Common Stock	$2.88	$2.77	$2.62

Reference should be made to the Notes to Consolidated Financial Statements.

CONSOLIDATED BALANCE SHEET

	(Dollars in Millions Except Per Share Amount)	DECEMBER 31, 1996	1995
ASSETS	CURRENT ASSETS		
	Cash and cash equivalents	$ 1,161.3	$ 1,139.5
	Accounts and notes receivable		
	Trade receivables (less allowances)	1,200.6	1,235.6
	General Motors and affiliates	113.4	146.7
	Contracts in process, less advances and progress payments of $1,010.4 and $1,327.2	2,507.1	2,469.2
	Inventories (less allowances)	1,528.5	1,225.5
	Prepaid expenses, including deferred income taxes of $428.0 and $484.4	568.1	594.3
	Total Current Assets	7,079.0	6,810.8
	Property - Net	2,886.6	2,739.2
	Telecommunications and Other Equipment, net of accumulated depreciation of $362.3 and $274.5	1,133.5	1,175.1
	Intangible Assets, net of amortization of $1,579.1 and $1,415.1	3,466.0	3,573.7
	Investments and Other Assets - principally at cost (less allowances)	1,915.0	1,675.6
	Total Assets	$16,480.1	$15,974.4
LIABILITIES AND STOCKHOLDER'S EQUITY	CURRENT LIABILITIES		
	Accounts payable		
	Outside	$ 896.4	$ 748.7
	General Motors and affiliates	27.5	52.2
	Advances on contracts	868.9	838.3
	Notes and loans payable	248.1	432.5
	Income taxes payable	132.9	190.8
	Accrued liabilities	2,025.8	2,046.3
	Total Current Liabilities	4,199.6	4,308.8
	Long-Term Debt and Capitalized Leases	34.5	258.8
	Postretirement Benefits Other Than Pensions	1,658.9	1,610.6
	Other Liabilities and Deferred Credits	1,407.2	1,270.5
	Commitments and Contingencies		
	Stockholder's Equity		
	Capital stock (outstanding, 1,000 shares, $0.10 par value) and additional paid-in capital	6,347.2	6,338.1
	Net income retained for use in the business	2,968.8	2,323.9
	Subtotal	9,316.0	8,662.0
	Minimum pension liability adjustment	(113.5)	(108.6)
	Accumulated foreign currency translation adjustments	(22.6)	(27.7)
	Total Stockholder's Equity	9,179.9	8,525.7
	Total Liabilities and Stockholder's Equity	$ 16,480.1	$ 15,974.4

Certain amounts for 1995 have been reclassified to conform with 1996 classifications.
Reference should be made to the Notes to Consolidated Financial Statements.

CONSOLIDATED STATEMENT OF CASH FLOWS

	(Dollars in Millions)	YEARS ENDED DECEMBER 31, 1996	1995	1994
CASH FLOWS FROM OPERATING ACTIVITIES	Income before cumulative effect of accounting change	$1,028.9	$ 948.3	$ 955.8
	Adjustments to reconcile income before cumulative effect of accounting change to net cash provided by operating activities			
	Depreciation and amortization	560.3	487.7	470.2
	Amortization and adjustment of GM purchase accounting adjustments related to Hughes Aircraft Company	122.3	159.5	123.8
	Pension cost, net of cash contributions	(1.3)	(51.9)	20.3
	Provision for postretirement benefits other than pensions, net of cash payments	40.1	43.5	78.4
	Net (gain) loss on sale of property	(23.2)	6.1	14.3
	Net gain on sale of investments and businesses	(120.3)	(12.9)	(3.6)
	Change in deferred income taxes and other*	130.9	(150.1)	(60.1)
	Change in other operating assets and liabilities			
	Accounts receivable	86.7	(147.3)	(238.1)
	Contracts in process	(34.1)	(186.2)	111.4
	Inventories	(302.8)	(160.1)	(27.5)
	Prepaid expenses	(30.3)	(3.0)	(15.2)
	Accounts payable	122.0	(92.0)	25.8
	Income taxes payable	(57.9)	160.4	(70.7)
	Accrued and other liabilities	(13.9)	257.0	(28.2)
	Other*	(308.0)	(272.8)	20.2
	NET CASH PROVIDED BY OPERATING ACTIVITIES	1,199.4	986.2	1,376.8
CASH FLOWS FROM INVESTING ACTIVITIES	Investment in companies, net of cash acquired	(28.7)	(309.5)	(7.0)
	Expenditures for property and special tools	(652.3)	(545.7)	(490.5)
	Increase in telecommunications and other equipment	(191.2)	(198.9)	(351.9)
	Proceeds from sale and leaseback of satellite transponders with General Motors Acceptance Corporation	252.0	-	-
	Proceeds from disposal of property	96.2	50.6	90.6
	Proceeds from sale of investments and businesses	-	127.2	3.6
	Decrease (increase) in notes receivable	1.6	(13.6)	206.9
	NET CASH USED IN INVESTING ACTIVITIES	(522.4)	(889.9)	(548.3)
CASH FLOWS FROM FINANCING ACTIVITIES	Net decrease in notes and loans payable	(393.2)	(80.9)	(2.1)
	Increase in long-term debt	13.5	28.0	7.5
	Decrease in long-term debt	(29.0)	(37.7)	(20.8)
	Proceeds from sale of minority interest in subsidiary	137.5	-	-
	Cash dividends paid to General Motors	(384.0)	(368.0)	(320.0)
	NET CASH USED IN FINANCING ACTIVITIES	(655.2)	(458.6)	(335.4)
	Net increase (decrease) in cash and cash equivalents	21.8	(362.3)	493.1
	Cash and cash equivalents at beginning of the year	1,139.5	1,501.8	1,008.7
	Cash and cash equivalents at end of the year	$1,161.3	$1,139.5	$1,501.8

*1994 amounts exclude the effect of accounting change.

Reference should be made to the Notes to Consolidated Financial Statements.

NOTE 1: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Organization and Consolidation. The consolidated financial statements include the accounts of Hughes Electronics Corporation (Hughes) and its domestic and foreign subsidiaries that are more than 50% owned. Investments in associated companies in which at least 20% of the voting securities is owned are accounted for under the equity method of accounting.

Effective December 31, 1985, General Motors Corporation (General Motors or GM) acquired Hughes Aircraft Company and its subsidiaries for $2.7 billion in cash and cash equivalents and 100 million shares of GM Class H common stock having an estimated value of $2,561.9 million, which carried certain guarantees.

On February 28, 1989, GM and the Howard Hughes Medical Institute (Institute) reached an agreement to terminate GM's then-existing guarantee obligations with respect to the Institute's holding of GM Class H common stock. Under terms of the agreement as amended, the Institute received put options exercisable under most circumstances at $30 per share on March 1, 1991, 1992, 1993, and 1995 for 20 million, 10 million, 10.5 million, and 15 million shares, respectively. The Institute exercised these put options at $30 per share on March 1, 1991, March 2, 1992, and March 1, 1993. On February 15, 1995, GM and the Institute entered into an agreement under which GM assisted the Institute in selling 15 million shares of GM Class H common stock at $38.50 per share. The March 1, 1995 put option expired unexercised.

The acquisition of Hughes Aircraft Company was accounted for as a purchase. The purchase price exceeded the net book value of Hughes Aircraft Company by $4,244.7 million, which was assigned as follows: $500.0 million to patents and related technology, $125.0 million to the future economic benefits to GM of the Hughes Aircraft Company Long-Term Incentive Plan (LTIP), and $3,619.7 million to other intangible assets, including goodwill. The amounts assigned to patents and related technology are being amortized on a straight-line basis over 15 years and other intangible assets, including goodwill, over 40 years. The amount assigned to the future economic benefits of the LTIP was fully amortized in 1990.

For the purpose of determining earnings per share and amounts available for dividends on the common stocks of General Motors, the amortization and disposal, if any, of these intangible assets is charged against earnings attributable to GM $1-⅔ par value common stock and amounted to $122.3 million, $159.5 million, and $123.8 million, in 1996, 1995, and 1994, respectively. The 1995 amount included a $36.1 million charge, included in other income, for the write-off of such purchase accounting adjustments related to the disposition of certain non-strategic business units.

The earnings of Hughes and its subsidiaries since the acquisition of Hughes Aircraft Company form the base from which any dividends on the GM Class H common stock are declared. These earnings include income earned from sales to GM and its affiliates, but exclude purchase accounting adjustments (see Notes 2 and 7).

On January 16, 1997, GM and Hughes announced a series of planned transactions designed to address strategic challenges and unlock stockholder value in the three Hughes business segments. (See Note 18).

Use of Estimates in the Preparation of the Financial Statements. The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect amounts reported therein. Due to the inherent

uncertainty involved in making estimates, actual results reported in future periods may be based upon amounts that differ from those estimates.

Revenue Recognition. Sales to General Motors and affiliates and to outside customers not pursuant to long-term contracts are generally recognized as products are shipped or services are rendered. Sales under long-term contracts are recognized primarily using the percentage-of-completion (cost-to-cost) method of accounting. Under this method, sales are recorded equivalent to costs incurred plus a portion of the profit expected to be realized, determined based on the ratio of costs incurred to estimated total costs at completion. Sales under certain commercial long-term contracts are recognized using the units-of-delivery method.

Profits expected to be realized on long-term contracts are based on estimates of total sales value and costs at completion. These estimates are reviewed and revised periodically throughout the lives of the contracts, and adjustments to profits resulting from such revisions are recorded in the accounting period in which the revisions are made. Estimated losses on contracts are recorded in the period in which they are identified.

Certain contracts contain cost or performance incentives which provide for increases in profits for surpassing stated objectives and decreases in profits for failure to achieve such objectives. Amounts associated with incentives are included in estimates of total sales values when there is sufficient information to relate actual performance to the objectives.

Cash Flows. Cash equivalents consist of highly liquid investments purchased with original maturities of 90 days or less.

Net cash provided by operating activities reflects cash payments for interest and income taxes as follows:

(Dollars in Millions)	1996	1995	1994
Interest	$ 39.6	$ 37.5	$ 40.7
Income taxes	647.9	634.2	686.2

Accounts Receivable and Contracts in Process.

Trade receivables are principally related to long-term contracts and programs. Amounts billed under retainage provisions of contracts are not significant, and substantially all amounts are collectible within one year.

Contracts in process are stated at costs incurred plus estimated profit, less amounts billed to customers and advances and progress payments applied Engineering, tooling, manufacturing, and applicable overhead costs, including administrative, research and development, and selling expenses, are charged to costs and expenses when incurred. Contracts in process include amounts relating to contracts with long production cycles and amounts receivable under sales-type leases, and $546.0 million of the 1996 amount is expected to be billed after one year. Contracts in process in 1996 also include approximately $53.8 million relating to claims, requests for equitable adjustments, and amounts withheld pending negotiation or settlement with customers. Under certain contracts with the U.S. Government, progress payments are received based on costs incurred on the respective contracts. Title to the inventories related to such contracts (included in contracts in process) vests with the U.S. Government.

Inventories. Inventories are stated at the lower of cost or market principally using the first-in, first-out (FIFO) or average cost methods.

Major Classes of Inventories

(Dollars in Millions)	1996	1995
Productive material, work in process, and supplies	$1,383.1	$1,060.4
Finished product	145.4	165.1
Total	$1,528.5	$1,225.5

Property and Depreciation. Property is carried at cost. Depreciation of property is provided for based on estimated useful lives (3 to 45 years) generally using accelerated methods.

Telecommunications and Other Equipment. Telecommunications and other equipment includes satellite transponders and other equipment subject to operating leases or service agreements. Such equipment is carried at Hughes' direct and indirect manufacturing cost and is amortized over the estimated useful lives (7 to 23 years) using the straight-line method. The net book value of equipment subject to operating leases was $412.4 million and $299.8 million at December 31, 1996 and 1995, respectively.

Intangible Assets. Intangible assets, principally the excess of cost over the fair value of identifiable net assets of purchased businesses, are amortized using the straight-line method over periods not exceeding 40 years. Hughes periodically evaluates the recoverability of goodwill and other intangible assets by assessing whether the unamortized intangible asset can be recovered over its remaining life through undiscounted cash flows generated by underlying tangible assets.

Income Taxes. The provision for income taxes is based on reported income before income taxes. Deferred income tax assets and liabilities reflect the impact of temporary differences between the amounts of assets and liabilities recognized for financial reporting purposes and such amounts recognized for tax purposes, as measured by applying currently enacted tax laws. Provision has been made for U.S. Federal income taxes to be paid on that portion of the undistributed earnings of foreign subsidiaries that has not been deemed permanently reinvested.

Hughes and its domestic subsidiaries join with General Motors in filing a consolidated U.S. Federal income tax return. The portion of the consolidated income tax liability recorded by Hughes is generally equivalent to the liability it would have incurred on a separate return basis.

Research and Development. Expenditures for research and development are charged to costs and expenses as incurred and amounted to $730.0 million in 1996, $761.7 million in 1995, and $699.3 million in 1994.

Financial Instruments. Hughes enters into foreign exchange-forward contracts to reduce its exposure to fluctuations in foreign exchange rates. Foreign exchange-forward contracts are accounted for as hedges to the extent they are designated as, and are effective as, hedges of firm foreign currency commitments.

Foreign Currency Transactions. Foreign currency transaction net gains (losses) included in consolidated operating results amounted to $5.4 million in 1996, ($0.5) million in 1995, and ($4.2) million in 1994.

Market and Credit Risk Concentrations. Sales under United States Government contracts were 34.5%, 35.5%, and 37.6% of net sales in 1996, 1995, and 1994, respectively. Sales to General Motors and affili-

ates, consisting of various automotive electronic component parts, were 32.3% of total sales in 1996, and 35.2% in 1995 and 1994.

Financial instruments which potentially subject Hughes to concentrations of credit risk consist principally of highly liquid investments purchased with original maturities of 90 days or less. Hughes places these investments with high-quality counterparties and, by policy, limits the amount of credit exposure to any one counterparty.

Accounting Changes. Effective January 1, 1996, Hughes adopted Statement of Financial Accounting Standards (SFAS) No. 123, Accounting for Stock-Based Compensation, and as permitted by this standard, will continue to apply the recognition and measurement principles of Accounting Principles Board Opinion No. 25 to its stock options. Hughes has calculated the pro forma effects of applying SFAS No. 123 and determined that such effects are not significant in relation to reported net income and earnings per share.

Effective January 1, 1996, Hughes also adopted SFAS No. 121, Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of. This Statement establishes accounting standards for the impairment of long-lived assets, certain identifiable intangibles, and goodwill related to those assets to be held and used, and for long-lived assets and certain identifiable intangibles to be disposed of. The adoption of this new accounting standard did not have a material effect on Hughes' consolidated operating results or financial position.

Effective January 1, 1994, Hughes adopted SFAS No. 112, Employers' Accounting for Postemployment Benefits. The Statement requires accrual of the costs of benefits provided to former or inactive employees after employment, but before retirement. The unfavorable cumulative effect of adopting this Standard was $30.4 million, net of income taxes of $19.2 million, or $0.08 per share of GM Class H common stock. The charge primarily related to extended disability benefits which are accrued on a service-driven basis.

NOTE 2: RELATED-PARTY TRANSACTIONS

Sales, Purchases, and Administrative Expenses. The amounts due from and to GM and affiliates result from sales of products to and purchases of materials and services from units controlled by GM. Purchases from GM and affiliates, including computer systems services provided by Electronic Data Systems Corporation prior to its split-off from GM, and common administrative expenses allocated by GM, amounted to approximately $77.9 million, $233.7 million, and $257.1 million, in 1996, 1995, and 1994, respectively.

Incentive Plans. Certain eligible employees of Hughes participate in various incentive plans of GM and its subsidiaries.

NOTE 3: INCENTIVE PLAN

Under the Hughes Electronics Corporation Incentive Plan (the Plan), as approved by the GM Board of Directors in 1987, 1992, and 1995, shares, rights, or options to acquire up to 20 million shares of GM Class H common stock may be granted through May 31, 1997.

The GM Executive Compensation Committee may grant options and other rights to acquire shares of GM Class H common stock under the provisions of the Plan. The option price is equal to 100% of the fair market value of GM Class H common stock on the date the options are granted. These nonqualified options generally expire 10 years from the dates of grant and are subject to earlier termination under certain conditions.

Changes in the status of outstanding options were as follows:

GM Class H common stock	Shares Under Option	Weighted-Average Exercise Price
Outstanding at January 1, 1994	6,366,008	$25.19
Granted	1,612,640	36.75
Exercised	(712,107)	24.48
Terminated	(202,220)	34.22
Outstanding at December 31, 1994	7,064,321	27.64
Granted	1,537,350	39.94
Exercised	(1,929,393)	24.81
Terminated	(14,425)	34.17
Outstanding at December 31, 1995	6,657,853	31.29
Granted	1,501,900	61.31
Exercised	(864,889)	28.58
Terminated	(128,075)	42.94
Outstanding at December 31, 1996	7,166,789	$37.70
Exercisable at December 31, 1996	4,965,289	$30.40

The following table summarizes information about the Plan stock options outstanding at December 31, 1996:

Range of Exercise Prices	Number Outstanding	Weighted-Average Remaining Contractual Life (years)	Weighted-Average Exercise Price	Number Exercisable	Weighted-Average Exercise Price
$15.00 to $24.99	829,669	4.6	$20.74	829,669	$20.74
25.00 to 34.99	2,179,755	5.5	27.36	2,179,755	27.36
35.00 to 44.99	2,692,090	7.9	38.45	1,955,865	37.89
45.00 to 54.99	—	—	—	—	—
55.00 to 65.00	1,465,275	9.3	61.31	—	—
$15.00 to $65.00	7,166,789	7.1	$37.70	4,965,289	$30.40

At December 31, 1996, the maximum number of shares for which additional options and other rights may be granted under the Plan was 2,314,449 shares.

NOTE 4: PENSION PROGRAMS

Hughes' total pension expense amounted to $97.5 million in 1996, $39.0 million in 1995, and $54.9 million in 1994.

Substantially all the employees of Delco Electronics participate in the defined benefit pension plans of General Motors. Plans covering represented employees generally provide benefits of negotiated stated amounts for each year of service as well as significant supplemental benefits for employees who retire with 30 years of service before normal retirement age. The benefits provided by the plans covering salaried employees are generally based on years of service and the employee's salary history. Certain nonqualified pension plans covering executives are

based on targeted wage replacement percentages and are unfunded. The accumulated plan benefit obligation and plan net assets for the employees of Delco Electronics are not determined separately; however, GM charged Delco Electronics $53.1 million, $50.9 million, and $93.3 million, for benefits earned by these employees in 1996, 1995, and 1994, respectively.

Substantially all of Hughes' non-automotive employees are covered by Hughes' bargaining and non-bargaining defined benefit retirement plans. Benefits are based on years of service and compensation earned during a specified period of time before retirement. Additionally, an unfunded, nonqualified pension plan covers certain executives. The net pension expense (credit), related to these plans covering non-automotive employees, included the components shown below:

(Dollars in Millions)	1996	1995	1994
Benefits earned during the year	$ 161.3	$ 110.5	$ 146.7
Interest accrued on benefits earned in prior years	413.4	403.6	377.0
Actual return on assets	(1,253.1)	(1,198.3)	(104.7)
Net amortization and deferral	722.8	672.3	(457.4)
Net retirement plan expense (credit)	$ 44.4	$ (11.9)	$ (38.4)

Costs are actuarially determined using the projected unit credit method and are funded in accordance with U.S. Government cost accounting standards to the extent such costs are tax-deductible. SFAS No. 87, Employers' Accounting for Pensions, requires the recognition of an additional pension liability to increase the amounts recorded up to the unfunded accumulated benefit obligation. The adjustment required to recognize the minimum pension liability required by SFAS No. 87 is recorded as an intangible asset to the extent of unrecognized prior service cost and the remainder, net of applicable deferred income taxes, is recorded as a reduction of Stockholder's Equity. At December 31, 1996 and 1995, the additional minimum pension liability recorded was $210.8 million and $204.9 million, respectively, of which $113.5 million and $108.6 million, respectively, was recorded as a reduction of Stockholder's Equity.

Plan assets are invested primarily in listed common stock, cash and short-term investment funds, U.S. Government securities, and other investments.

The weighted-average discount rates used in determining the actuarial present values of the projected benefit obligation shown in the table on the following page were 7.5% and 7.25% at December 31, 1996 and 1995, respectively. The rate of increase in future compensation levels was 5.0% in 1996 and 1995. The expected long-term rate of return on assets used in determining pension cost was 9.5% in 1996 and 1995.

The table on the following page sets forth the funded status of the Hughes non-automotive employee plans and the amounts included in the Consolidated Balance Sheet at December 31, 1996 and 1995:

(Dollars in Millions)	1996 Assets Exceed Accumulated Benefits	1996 Accumulated Benefits Exceed Assets	1995 Assets Exceed Accumulated Benefits	1995 Accumulated Benefits Exceed Assets
Actuarial present value of benefits based on service to date and present pay levels				
Vested	$ 4,437.0	$ 330.7	$ 4,685.3	$ 327.5
Nonvested	403.7	3.9	225.6	4.7
Accumulated benefit obligation	4,840.7	334.6	4,910.9	332.2
Additional amounts related to projected pay increases	549.3	13.8	456.7	11.0
Total projected benefit obligation based on service to date	5,390.0	348.4	5,367.6	343.2
Plan assets at fair value	7,094.9	70.2	6,397.7	65.9
Plan assets in excess of (less than) projected benefit obligation	1,704.9	(278.2)	1,030.1	(277.3)
Unamortized net amount resulting from changes in plan experience and actuarial assumptions	(564.0)	208.6	173.3	193.3
Unamortized net asset at date of adoption	(106.6)	-	(161.9)	-
Unamortized net amount resulting from changes in plan provisions	(13.0)	15.9	(13.8)	22.6
Adjustment for unfunded pension liabilities	-	(210.8)	-	(204.9)
Net prepaid pension cost (accrued liability)	$ 1,021.3	$ (264.5)	$ 1,027.7	$ (266.3)

NOTE 5: OTHER POSTRETIREMENT BENEFITS

Substantially all of the employees of Delco Electronics participate in various postretirement medical, dental, vision, and life insurance plans of General Motors. Hughes maintains a program for eligible non-automotive retirees to participate in health care and life insurance benefits generally until they reach age 65. Qualified employees who elected to participate in the Hughes contributory defined benefit pension plans may become eligible for these benefits if they retire from Hughes between the ages of 55 and 65.

The total non-pension postretirement benefit cost of Hughes and its subsidiaries included the components set forth as follows:

(Dollars in Millions)	1996	1995	1994
Benefits earned during the year	$ 36.2	$ 33.9	$ 50.1
Interest accrued on benefits earned in prior years	116.5	123.3	130.3
Net amortization	(11.0)	(16.5)	7.6
Total non-pension postretirement benefit cost	$141.7	$140.7	$188.0

The following table displays the components of Hughes' obligation recognized for postretirement benefit plans included in the Consolidated Balance Sheet at December 31, 1996 and 1995:

(Dollars in Millions)	1996	1995
Accumulated postretirement benefit obligation attributable to		
Current retirees	$ 808.3	$ 857.1
Fully eligible active plan participants	254.2	221.1
Other active plan participants	562.0	547.5
Accumulated postretirement benefit obligation	1,624.5	1,625.7
Unrecognized net amount resulting from changes in plan experience and actuarial assumptions	103.7	62.4
Net postretirement benefit obligation	1,728.2	1,688.1
Less current portion	69.3	77.5
Net long-term postretirement benefit obligation	$1,658.9	$1,610.6

The assumed weighted-average discount rates used in determining the actuarial present value of the accumulated postretirement benefit obligation were 7.56% and 7.25% at December 31, 1996 and 1995, respectively. The assumed weighted-average rate of increase in future compensation levels related to pay-related life insurance benefits was 4.5% at December 31, 1996 and 4.4% at December 31, 1995.

The assumed weighted-average health care cost trend rate was 7.91% in 1996, decreasing linearly each successive year until it reaches 5.31% in 2006, after which it remains constant. A one percentage point increase in each year of this annual trend rate would increase the accumulated postretirement benefit obligation at December 31, 1996 by approximately $150 million, and increase the service and interest cost components of th 1996 postretirement benefit expense by approximately $17 million.

Hughes has disclosed in the consolidated financial statements certain amounts associated with estimated future postretirement benefits other than pensions and characterized such amounts as "accumulated postretirement benefit obligations," "liabilities," or "obligations." Notwithstanding the recording of such amounts and the use of these terms, Hughes does not admit or otherwise acknowledge that such amounts or existing postretirement benefit plans of Hughes (other than pensions) represent legally enforceable liabilities of Hughes.

NOTE 6: INCOME TAXES

The income tax provision consisted of the following:

(Dollars in Millions)	1996	1995	1994
Taxes currently payable			
U.S. Federal	$ 390.7	$ 664.6	$ 532.2
Foreign	11.2	13.4	10.3
U.S. state and local	102.8	138.4	100.5
Total	504.7	816.4	643.0
Deferred tax (assets) liabilities - net			
U.S. Federal	97.9	(130.0)	(62.2)
Foreign	0.3	2.0	1.3
U.S. state and local	2.8	(42.8)	(9.3)
Total	101.0	(170.8)	(70.2)
Total income tax provision	$ 605.7	$ 645.6	$ 572.8*

* Excluding effect of accounting change.

The deferred income tax benefit in 1994 included a $63.0 million credit that resulted from an adjustment to the beginning of the year valuation allowance because of a change in circumstances with respect to Hughes' ability to realize the benefit from a capital loss carryforward.

Income before income taxes included the following components:

(Dollars in Millions)	1996	1995	1994
U.S. income	$1,547.1	$1,494.7	$1,448.1
Foreign income	87.5	99.2	80.5
Total	$1,634.6	$1,593.9	$1,528.6

The consolidated income tax provision was different than the amount computed using the U.S. statutory income tax rate for the reasons set forth in the following table:

(Dollars in Millions)	1996	1995	1994
Expected tax at U.S. statutory income tax rate	$ 572.1	$ 557.9	$ 535.0
U.S. state and local income taxes	68.6	62.2	59.3
Purchase accounting adjustments	42.8	55.8	43.3
Foreign sales corporation tax benefit	(27.2)	(22.2)	(19.2)
Change in valuation allowance	-	-	(63.0)
Other	(50.6)	(8.1)	17.4
Consolidated income tax provision	$ 605.7	$ 645.6	$ 572.8*

* Excluding effect of accounting change.

Temporary differences and carryforwards which gave rise to deferred tax assets and liabilities at December 31, 1996 and 1995 were as follows:

(Dollars in Millions)	1996 Deferred Tax Assets	1996 Deferred Tax Liabilities	1995 Deferred Tax Assets	1995 Deferred Tax Liabilities
Postretirement benefits other than pensions	$ 763.6	$ -	$ 704.9	$ -
Profits on long-term contracts	370.7	142.3	384.5	203.5
Leveraged leases	119.6	-	74.9	-
Employee benefit programs	148.9	387.8	185.2	393.3
Depreciation	-	496.2	-	479.5
Special provision for restructuring	29.0	-	56.4	-
Other	313.2	251.6	445.2	220.3
Subtotal	1,745.0	1,277.9	1,851.1	1,296.6
Valuation allowance	(33.6)	-	(22.8)	-
Total deferred taxes	$1,711.4	$1,277.9	$1,828.3	$1,296.6

Provision has been made for U.S. Federal income taxes to be paid on that portion of the undistributed earnings of foreign subsidiaries that has not been deemed permanently reinvested. At December 31, 1996 and 1995, undistributed earnings of foreign subsidiaries amounted to approximately $462.3 million and $397.4 million, respectively. Repatriation of all accumulated foreign earnings would have resulted in tax liabilities of $122.6 million and $110.3 million, respectively, for which Hughes has provided deferred tax liabilities of $93.4 million and $82.8 million, respectively.

At December 31, 1996, Hughes had $73.6 million of foreign operating loss carryforwards which expire in varying amounts between 1997 and 2001. The valuation allowance includes a provision for all of the foreign operating loss carryforwards. In addition, Hughes had $19.6 million of capital loss carryforwards, of which $12.3 million will expire in 1998 and $7.3 million will expire in 2000. No valuation allowance has been provided for the capital loss carryforwards.

NOTE 7: EARNINGS ATTRIBUTABLE TO GENERAL MOTORS CLASS H COMMON STOCK ON A PER SHARE BASIS AND AVAILABLE SEPARATE CONSOLIDATED NET INCOME

Earnings attributable to General Motors Class H common stock on a per share basis have been determined based on the relative amounts available for the payment of dividends to holders of the GM Class H common stock. Holders of GM Class H common stock have no direct rights in the equity or assets of Hughes, but rather have rights in the equity and assets of GM (which includes 100% of the stock of Hughes).

Dividends on the GM Class H common stock are declared by GM's Board of Directors out of the Available Separate Consolidated Net Income of Hughes earned since the acquisition of Hughes Aircraft Company by GM. The Available Separate Consolidated Net Income of Hughes is determined quarterly and is equal to the separate consolidated net income of Hughes, excluding the effects of GM purchase accounting adjustments arising from the

cquisition of Hughes Aircraft Company (Earnings Used for Computation of Available Separate Consolidated Net Income), multiplied by a fraction, he numerator of which is a number equal to the weighted-average number of shares of GM Class H ommon stock outstanding during the period and the denominator of which was 399.9 million during he fourth quarters of 1996, 1995, and 1994.

The denominator used in determining the Available Separate Consolidated Net Income of Hughes is adjusted as deemed appropriate by the GM Board of Directors to reflect subdivisions or combinations of the GM Class H common stock and o reflect certain transfers of capital to or from Hughes. The GM Board's discretion to make such djustments is limited by criteria set forth in GM's Certificate of Incorporation. In this regard, the GM Board has generally caused the denominator to decrease as shares are purchased by Hughes, and to increase as such shares are used, at Hughes expense, for Hughes employee benefit plans or acquisitions.

Dividends may be paid on GM Class H common stock only when, as, and if declared by the GM Board of Directors in its sole discretion. The current policy of the GM Board with respect to GM Class H common stock is to pay cash dividends approximately equal to 35% of the Available Separate Consolidated Net Income of Hughes for the prior year. Notwithstanding the current dividend policy, the dividends paid on the GM Class H common stock during 1996, 1995, and 1994 were based on an annual rate higher than 35% of the Available Separate Consolidated Net Income of Hughes for the preceding year.

NOTE 8: PROPERTY - NET

(Dollars in Millions)	Estimated Useful Lives (Years)	December 31, 1996	December 31, 1995
Land and improvements	10-40	$ 187.6	$ 189.7
Buildings and unamortized leasehold improvements	5-45	1,361.5	1,293.3
Machinery and equipment	3-13	3,140.3	2,874.2
Furniture, fixtures, and office machines	5-15	139.1	118.3
Construction in progress	-	348.5	439.9
Total		5,177.0	4,915.4
Less accumulated depreciation		2,378.1	2,244.2
Net real estate, plants, and equipment		2,798.9	2,671.2
Special tools - less amortization	3	87.7	68.0
Property - net		$2,886.6	$2,739.2

NOTE 9: NOTES AND LOANS PAYABLE AND LONG-TERM DEBT AND CAPITALIZED LEASES

(Dollars in Millions)	December 31, 1996	1995
Loans payable to banks	$ 10.2	$ 15.1
Current portion of long-term debt	151.4	7.2
Current portion of GM term loans	58.8	85.0
Other	27.7	325.2
Total notes and loans payable	$248.1	$432.5
Foreign bank debt	$ 27.1	$ 53.8
Term loans		
GM	58.8	143.8
Other	150.0	150.0
Other debt	-	2.9
Total	235.9	350.5
Less current portion	210.2	92.2
Long-term debt	25.7	258.3
Capitalized leases	8.8	.5
Total long-term debt and capitalized leases	$ 34.5	$258.8

At December 31, 1996, Hughes had $550.0 million and $650.0 million of unused credit available under short-term lines of credit and an unsecured revolving credit loan agreement, respectively. The unsecured revolving credit loan agreement provides for a commitment of $650.0 million through January 2000, subject to a facility fee of 0.10% per annum. Borrowings under the agreement bear interest at a rate which approximates the London Interbank Offered Rate plus 0.175%. No amounts were outstanding under the agreement or the short-term lines of credit at December 31, 1996.

At December 31, 1996, foreign bank debt included $27.1 million denominated in British pounds sterling, bearing interest at rates ranging from 5.9% to 7.1% with maturity dates from 1997 to 2003.

The GM term loan bears interest at 6.1% with a maturity date in 1997. The other term loans consisted of notes payable to an insurance company bearing interest at rates ranging from 7.7% to 8.0% with maturity dates in 1997.

Other notes and loans payable for 1995 included $302.7 million related to the acquisition of Magnavox Electronic Systems Company (see Note 13). The note, which bore interest at 5.3%, was repaid in full on January 5, 1996.

Annual maturities of long-term debt and capitalized leases are $210.2 million in 1997, $2.4 million in 1998, $2.5 million in 1999, $2.8 million in 2000, $3.1 million in 2001, and $23.7 million thereafter.

Property with a net book value of $14.8 million at December 31, 1996 was pledged as collateral under such debt.

NOTE 10: ACCRUED LIABILITIES

(Dollars in Millions)	December 31, 1996	1995
Payroll and other compensation	$ 671.3	$ 553.2
Provision for losses on contracts	356.3	408.4
Accrual for restructuring	32.9	115.9
Other	965.3	968.8
Total	$ 2,025.8	$ 2,046.3

Certain amounts for 1995 have been reclassified to conform with 1996 classifications.

NOTE 11: STOCKHOLDER'S EQUITY

The authorized capital stock of Hughes consists of 1,000 shares of $0.10 par value common stock. At December 31, 1996, 1995, and 1994, 1,000 shares having an aggregate par value of $100 were issued and outstanding. All of the outstanding capital stock of Hughes is held by General Motors.

(Dollars in Millions)	1996	1995	1994
Capital stock and additional paid-in capital			
Balance at beginning of the year	$ 6,338.1	$ 6,326.5	$ 6,323.1
Tax benefit from exercise of GM Class H common stock options	9.1	11.6	3.4
Balance at end of the year	$ 6,347.2	$ 6,338.1	$ 6,326.5
Net income retained for use in the business			
Balance at beginning of the year	$ 2,323.9	$ 1,743.6	$ 1,138.2
Net income	1,028.9	948.3	925.4
Cash dividends paid to General Motors	(384.0)	(368.0)	(320.0)
Balance at end of the year	$ 2,968.8	$ 2,323.9	$ 1,743.6
Minimum pension liability adjustment			
Balance at beginning of the year	$ (108.6)	$ (76.1)	$ (120.4)
Change during the year	(4.9)	(32.5)	44.3
Balance at end of the year	$ (113.5)	$ (108.6)	$ (76.1)
Accumulated foreign currency translation adjustments			
Balance at beginning of the year	$ (27.7)	$ (18.2)	$ (12.8)
Change during the year	5.1	(9.5)	(5.4)
Balance at end of the year	$ (22.6)	$ (27.7)	$ (18.2)

As sole stockholder of Hughes, GM is able to cause Hughes to pay cash dividends and make advances to or otherwise enter into transactions with GM as GM deems desirable and appropriate. GM reserves the right to cause Hughes to pay cash dividends to GM in such amounts as GM determines are desirable under the then prevailing facts and circumstances. Such amounts may be the same as, greater than, or less than the cash dividends paid by GM on its Class H common stock. There is no fixed relationship, on a per share or aggregate basis, between the cash dividends that may be paid by GM to holders of its Class H common stock and the cash dividends or other amounts that may be paid by Hughes to GM.

NOTE 12: SPECIAL PROVISION FOR RESTRUCTURING

In 1992, Hughes recorded a special restructuring charge of $1,237.0 million primarily attributable to redundant facilities and related employment costs. The special charge comprehended a reduction of Hughes' worldwide employment, a major facilities consolidation, and a reevaluation of certain business lines that no longer met Hughes' strategic objectives. Restructuring costs of $92.4 million, $208.8 million, and $228.3 million were charged against the reserve during 1996, 1995, and 1994, respectively. In addition, in 1994 the restructuring reserve was increased by $35.0 million primarily due to changes in the estimated loss on disposition of a subsidiary. The remaining liability at December 31, 1996 of $42.0 million relates primarily to reserves for excess facilities and other site consolidation costs. Approximately $40.7 million of this total will require future cash outflows. It is expected that these costs will be expended predominantly during the next year.

NOTE 13: ACQUISITIONS AND DIVESTITURES

In December 1996, Hughes announced that it had reached an agreement to acquire the Marine Systems Division of Alliant Techsystems, Inc. for $141.0 million in cash. The Marine Systems Division is a leader in lightweight torpedo manufacturing and the design and manufacturing of underwater surveillance, sonar and mine warfare systems. The acquisition was completed in the first quarter of 1997.

In September 1996, Hughes and PanAmSat Corporation entered into an agreement to merge their respective satellite services operations into a new publicly-held company. Hughes would contribute its Galaxy satellite services business in exchange for a 71.5% interest in the new company. Current PanAmSat stockholders would receive a 28.5% interest in the new company and $1.5 billion in cash. The source of the cash component of the consideration is expected to be new debt financing, which will be an obligation of the new company. PanAmSat is a leading provider of international satellite services. The transaction, which is contingent upon receiving certain regulatory approvals, is expected to close during the second quarter of 1997.

In March 1996, Hughes sold a 2.5% equity interest in DIRECTV, a wholly-owned subsidiary of Hughes, to AT&T for $137.5 million, with options to increase their ownership interest under certain conditions. The sale resulted in a $120.3 million pretax gain which is included in other income.

In February 1995, Hughes acquired substantially all of the assets of CAE-Link Corporation for $176.0 million in cash. CAE-Link is an established supplier of simulation, training, and technical services, primarily to the U.S. military and NASA. In December 1995, Hughes acquired all of the stock of Magnavox Electronic Systems Company (Magnavox) for $382.4 million, consisting of cash of $70.5 million, a note payable of $302.7 million, and estimated additional

mounts to be paid of $9.2 million. Magnavox is a leading supplier of military tactical communications, electronic warfare, and command and control systems. In addition, Hughes acquired several other enterprises with operations that complement existing technological capabilities at aggregate purchase prices, paid in cash, of $28.7 million and $63.0 million in 1996 and 1995, respectively.

All acquisitions were accounted for using the purchase method of accounting. The operating results of the entities acquired were consolidated with those of Hughes from their respective acquisition dates. These acquisitions did not have a material impact on the operating results of Hughes. The purchase price of each acquisition was allocated to the net assets acquired, including intangible assets, based upon their estimated fair values at the dates of acquisition.

During 1995, Hughes divested several non-strategic enterprises generating aggregate proceeds of approximately $127.2 million and a net loss of approximately $8.2 million, which included the write-off of $30.1 million of purchase accounting adjustments related to GM's acquisition of Hughes Aircraft Company. Also in 1995, Hughes recorded a $46.0 million charge for the estimated loss on disposition of a business unit (including $6.0 million related to the write-off of GM purchase accounting adjustments) and completed the divestiture of Hughes LAN Systems, for which a pre-tax charge of $35.0 million was taken in 1994.

NOTE 14: DERIVATIVE FINANCIAL INSTRUMENTS AND RISK MANAGEMENT

Hughes is a party to financial instruments with off-balance sheet risk in the normal course of business to reduce its exposure to fluctuations in foreign exchange rates. The primary class of derivatives used by Hughes is foreign exchange-forward contracts. These instruments involve, to varying degrees, elements of credit risk in the event a counterparty should default and market risk as the instruments are subject to rate and price fluctuations. Credit risk is managed through the periodic monitoring and approval of financially sound counterparties. Market risk is mitigated because the derivatives are used to hedge underlying transactions. Cash receipts or payments on these contracts normally occur at maturity. Hughes holds derivatives only for purposes other than trading.

Foreign exchange-forward contracts are legal agreements between two parties to purchase and sell a foreign currency, for a price specified at the contract date, with delivery and settlement in the future. Hughes uses these agreements to hedge risk of changes in foreign currency exchange rates associated with certain firm commitments denominated in foreign currency.

The total notional amount of foreign exchange-forward contracts Hughes held at December 31, 1996 and 1995, was approximately $223 million and $289 million, respectively. Hughes' open contracts extend for periods averaging six months.

NOTE 15: FAIR VALUE OF FINANCIAL INSTRUMENTS

For notes and loans payable and long-term debt and capitalized leases, the estimated fair value (which approximates book value) was $283.2 million and $694.9 million at December 31, 1996 and 1995, respectively. Such fair value is based on the quoted market prices for similar issues or on the current rates offered to Hughes for debt of similar remaining maturities. The carrying value of debt with an original term of less than 90 days is assumed to approximate fair value.

The fair values of derivative financial instruments

reflect the estimated amounts Hughes would receive or pay to terminate the contracts at the reporting date, which takes into account the current unrealized gains or losses on open contracts that are deferred and recognized when the offsetting gains and losses are recognized on the related hedged items. The fair value of foreign exchange-forward contracts is estimated based on foreign exchange rate quotes at the reporting date. At December 31, 1996 and 1995, the estimated fair value of open contracts, which were in a net gain position, was $4.5 million and $10.7 million, respectively.

For all financial instruments not described above, fair value approximates book value.

NOTE 16: SEGMENT REPORTING

Hughes operates within the field of modern high-technology electronics for use in Telecommunications and Space, Automotive Electronics, and Aerospace and Defense Systems business segments. The Telecommunications and Space segment includes satellite construction, ownership and operation, communication services, ground equipment, and direct-to-home satellite television entertainment services. Radios, controls for engines and transmissions, navigation and communication systems, monitors and sensors for air bags, controllers for anti-lock brakes, climate control, dashboard instrumentation, vehicle security electronics, and other automotive electronic products are included in the Automotive Electronics segment. The Aerospace and Defense Systems segment includes missile systems, command and control systems, torpedoes and sonar systems, electro-optical systems, airborne radar and communication systems, military training and simulation systems, air traffic control systems, information systems, and guidance and control systems. Intercompany transfers between segments are not material. Information concerning operations by business segment is shown below.

(Dollars in Millions)	Telecommunications and Space	Automotive Electronics	Aerospace and Defense Systems	Corporate and Other	Total
Revenues					
1996	$4,114.9	$5,350.8	$6,338.4	$113.8	$15,917.9
1995	3,092.7	5,561.3	5,945.4	172.4	14,771.8
1994	2,596.2	5,221.7	6,023.6	257.9	14,099.4
Operating Profit (Loss) (1)					
1996	$ 238.8	$ 654.0	$ 593.8	$ (14.6)	$ 1,472.0
1995	168.2	869.0	587.1	(80.4)	1,543.9
1994	250.0	794.8	562.7	(100.9)	1,506.6
Identifiable Assets at Year-End (2)					
1996	$4,874.7	$3,394.9	$7,544.7	$665.8	$16,480.1
1995	4,309.0	3,267.4	7,718.4	679.6	15,974.4
1994	3,727.8	3,429.8	6,712.0	980.9	14,850.5
Depreciation and Amortization (1)					
1996	$ 215.8	$ 195.9	$ 258.5	$ 12.4	$ 682.6
1995	199.3	151.4	232.9	27.5	611.1
1994	161.8	142.2	259.4	30.6	594.0
Capital Expenditures (3)					
1996	$ 449.8	$ 196.0	$ 171.1	$ 23.3	$ 840.2
1995	436.5	264.7	109.8	9.3	820.3
1994	399.3	166.4	159.5	21.1	746.3

Certain amounts for 1995 have been reclassified to conform with 1996 classifications.

(Note 16 continued)

(1) Includes purchase accounting adjustments associated with GM's purchase of Hughes Aircraft Company of $122.3 million in 1996 ($21.0 million, $100.9 million, and $0.4 million related to Telecommunications and Space, Aerospace and Defense Systems, and Corporate and Other, respectively), $123.4 million in 1995 ($21.0 million, $100.9 million, and $1.5 million related to Telecommunications and Space, Aerospace and Defense Systems, and Corporate and Other, respectively), and $123.8 million in 1994 ($21.0 million, $100.9 million, and $1.9 million related to Telecommunications and Space, Aerospace and Defense Systems, and Corporate and Other, respectively).

(2) Identifiable assets include the unamortized purchase accounting adjustments associated with the purchase of Hughes Aircraft Company as detailed below:

	Telecommunications & Space	Aerospace and Defense Systems	Corporate and Other	Total
1996	$ 468.0	$ 2,247.8	$ 7.7	$ 2,723.5
1995	489.0	2,348.7	8.1	2,845.8
1994	510.0	2,449.6	45.7	3,005.3

(3) Telecommunications and Space includes expenditures related to telecommunications and other equipment amounting to $187.9 million, $274.6 million, and $255.8 million in 1996, 1995, and 1994, respectively.

A reconciliation of operating profit shown on the preceding page to Income before Income Taxes shown in the Consolidated Statement of Income and Available Separate Consolidated Net Income follows:

(Dollars in Millions)	1996	1995	1994
Operating Profit	$ 1,472.0	$ 1,543.9	$ 1,506.6
Other Income - net	173.8	57.5	37.1
Interest Expense - net	(11.2)	(7.5)	(15.1)
Income before Income Taxes	$ 1,634.6	$ 1,593.9	$ 1,528.6

Export sales from the U.S. were as follows:

(Dollars in Millions)	1996	1995	1994
Africa	$ 42.2	$ 25.4	$ 25.8
Asia	1,168.1	948.9	758.2
Canada	721.3	861.8	876.3
Europe	1,296.8	929.4	678.6
Mexico	196.2	143.4	96.9
Other Latin America	115.5	76.0	90.3
Middle East	250.9	327.0	370.1
Total	$ 3,791.0	$ 3,311.9	$ 2,896.2

NOTE 17: COMMITMENTS AND CONTINGENCIES

Hughes signed agreements in 1995 and 1996 to procure commercial satellite launches, a significant number of which are expected to be used in connection with satellites ordered by outside customers. The agreements provide for launches beginning in 1998 and also contain options for additional launch vehicles. The total amount of the commitment, which is dependent upon the number of options exercised, market conditions, and other factors, could exceed $2 billion.

In December 1994, Hughes entered into an agreement with Computer Sciences Corporation (CSC) whereby CSC provides a significant amount of the non-automotive data processing services required by Hughes. Baseline service payments to CSC are expected to aggregate approximately $1.5 billion over the term of the eight-year agreement. The contract is cancelable by Hughes with substantial early termination penalties.

Minimum future commitments under operating leases having noncancelable lease terms in excess of one year, primarily for real property and satellite transponders, aggregating $2,552.5 million, are payable as follows: $274.8 million in 1997, $244.5 million in 1998, $265.9 million in 1999, $289.7 million in 2000, $208.8 million in 2001, and $1,268.8 million thereafter. Certain of these leases contain escalation clauses and renewal or purchase options. Rental expenses under operating leases were $279.4 million in 1996, $257.9 million in 1995, and $306.2 million in 1994.

Hughes has issued or is a party to various guarantees and letter of credit agreements totaling $813.4 million at December 31, 1996. In the Company's past experience, virtually no claims have been made against these financial instruments.

Hughes and its subsidiaries are subject to potential liability under government regulations and various claims and legal actions which are pending or may be asserted against them. The aggregate ultimate liability of Hughes and its subsidiaries under these government regulations, and under these claims and actions, was not determinable at December 31, 1996. In the opinion of management of Hughes, such liability is not expected to have a material adverse effect on Hughes' consolidated operations or financial position.

Hughes has maintained a suit against the U.S. Government since September 1973, regarding the Government's infringement and use of a Hughes patent (the "Williams Patent") covering "Velocity Control and Orientation of a Spin Stabilized Body," principally satellites. On June 17, 1994, the U.S. Court of Claims awarded Hughes damages of $114 million. Because Hughes believed that the record supported a higher royalty rate, it appealed that decision. The U.S. Government, contending that the award was too high, also appealed. On June 19, 1996, the Court of Appeals for the Federal Circuit affirmed the decision of the Court of Claims which awarded Hughes $114 million in damages, together with interest. The U.S. Government petitioned the Court of Appeals for the Federal Circuit for a rehearing. That petition was denied in October of 1996. The U.S. Government has filed a petition with the U.S. Supreme Court seeking certiorari. In the opinion of management of Hughes, there is a reasonable possibility that this matter could be resolved in the near term. While no amount has been recorded in the financial statements of Hughes to reflect the $114 million award, a resolution of this matter could result in a gain that would be material to the earnings of General Motors attributable to Class H common stock.

NOTE 18: SUBSEQUENT EVENT

On January 16, 1997, GM and Hughes announced a series of planned transactions that would impact the defense electronics, automotive electronics and telecommunications and space businesses of Hughes. The transactions would include:

- The tax-free spin-off, of 100% of the Hughes defense business, to holders of GM's $1-⅔ par value and Class H common stocks;
- The tax-free merger of the Hughes defense business with Raytheon Company (Raytheon) immediately following the spin-off, after which there would be outstanding two classes of Raytheon/Hughes defense common stock;

• The transfer of Delco Electronics (Delco), the automotive electronics subsidiary of Hughes, from Hughes to GM's Delphi Automotive Systems and a reallocation of the derivative interest in the earnings of Delco currently held by Class H common stockholders to holders of $1-⅔ par value common stock; and

• The recapitalization of Class H common stock into a tracking stock linked to the telecommunications and space business of Hughes. GM would continue to own 100% of Hughes, which would hold and operate its existing telecommunications and space business.

The distribution of stock in the Hughes defense business to holders of GM Class H and $1-⅔ par value common stock would be in a ratio that would be determined by GM's Board of Directors to be fair to both classes of stockholders and would reflect: (1) a pro rata spin-off of the Hughes defense business to holders of GM Class H and $1-⅔ par value Class H common stock; (2) a partial reallocation of the Hughes defense business from holders of GM $1-⅔ par value common stock to holders of Class H common stock in exchange for the derivative interest in the earnings of Delco currently held by the Class H stockholders; and (3) other effects and factors relating to the planned transactions. Such a distribution ratio will be set by GM's Board of Directors at a time closer to GM's distribution of the solicitation statement/prospectus pursuant to which GM stockholders will be asked to approve the transactions.

The planned transactions are subject to approval by holders of GM $1-⅔ par value and Class H common stock. In addition, the merger of the Hughes defense business with Raytheon, which is contingent upon the spin-off of the Hughes defense business, is subject to approval by the stockholders of Raytheon. The planned transactions also are subject to a variety of regulatory approvals and actions, including anti-trust clearance and receipt of rulings by the Internal Revenue Service that the spin-off of the Hughes defense business would be tax-free to GM and its stockholders.

The spin-off is not being proposed in a manner that would result in a recapitalization of Class H common stock into $1-⅔ par value common stock at a 120% exchange ratio, as currently provided for under certain circumstances in GM's Restated Certificate of Incorporation, as amended.

No assurances can be given that the above transactions will be completed; however, management of GM and Hughes and GM's Board of Directors expect to solicit stockholder approval during late 1997, after certain conditions are satisfied.

SUPPLEMENTAL INFORMATION

SELECTED QUARTERLY DATA (UNAUDITED) (Dollars in Millions Except Per Share Amounts)

	1996 Quarters				1995 Quarters			
	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Revenues	$3,736.7	$4,062.5	$3,822.6	$4,296.1	$3,578.8	$3,723.6	$3,441.3	$4,028.1
Income before income taxes	$ 472.5	$ 448.3	$ 366.2	$ 347.6	$ 403.3	$ 436.3	$ 310.6	$ 443.7
Income taxes	191.4	172.3	144.7	97.3	165.4	178.8	121.6	179.8
Net income	$ 281.1	$ 276.0	$ 221.5	$ 250.3	$ 237.9	$ 257.5	$ 189.0	$ 263.9
Earnings used for computation of available separate consolidated net income	$ 311.7	$ 306.6	$ 252.0	$ 280.9	$ 268.9	$ 288.4	$ 256.1	$ 294.4
Average number of shares of General Motors Class H common stock outstanding (in millions)	97.4	98.2	98.8	99.3	94.2	95.4	95.9	96.5
Class H dividend base (in millions)	399.9	399.9	399.9	399.9	399.9	399.9	399.9	399.9
Available separate consolidated net income	$ 76.0	$ 75.2	$ 62.3	$ 69.8	$ 63.3	$ 68.8	$ 61.4	$ 71.1
Net earnings attributable to General Motors Class H common stock on a per share basis	$0.78	$0.77	$0.63	$0.70	$0.67	$0.72	$0.64	$0.74
Stock price range of General Motors Class H common stock								
High	$63.38	$68.25	$61.38	$59.25	$41.75	$41.63	$42.75	$50.00
Low	$45.00	$57.50	$53.13	$49.50	$33.25	$37.75	$39.13	$39.50

Selected Financial Data (UNAUDITED)

(Dollars in Millions Except Per Share Amounts)

	1996	1995	1994	1993	1992
Revenues	$15,917.9	$14,771.8	$14,099.4	$13,517.5	$12,297.1
Earnings (Loss) used for computation of available separate consolidated net income (loss)	$ 1,151.2	$ 1,107.8	$ 1,049.2	$ 921.6	$ (921.6)
Average number of shares of General Motors Class H common stock outstanding (in millions)	98.4	95.5	92.1	88.6	75.3
Class H dividend base (in millions)	399.9	399.9	399.9	399.9	399.9
Available separate consolidated net income (loss)	$ 283.3	$ 264.6	$ 241.6	$ 204.5	$ (142.3)
GM Class H cash dividends	$ 94.4	$ 87.9	$ 73.8	$ 64.1	$ 53.3
Dividend payout ratio (1)	35.7%	36.4%	36.0%	N/A	51.0%
Earnings (Loss) attributable to General Motors Class H common stock on a per share basis before cumulative effect of accounting changes	$2.88	$2.77	$2.70	$2.30	$(0.11)
Earnings (Loss) attributable to General Motors Class H common stock on a per share basis after cumulative effect of accounting changes	$2.88	$2.77	$2.62	$2.30	$(2.29)
Capital expenditures (2)	$ 840.2	$ 820.3	$ 746.3	$ 580.0	$ 558.5
Cash and cash equivalents	$ 1,161.3	$ 1,139.5	$ 1,501.8	$ 1,008.7	$ 702.7
Working capital	$ 2,879.4	$ 2,502.0	$ 2,695.5	$ 2,165.2	$ 1,692.4
Total assets	$16,480.1	$15,974.4	$14,850.5	$14,117.1	$14,209.2
Long-term debt and capitalized leases	$ 34.5	$ 258.8	$ 353.5	$ 416.8	$ 711.0
Return on equity* (3)	11.6%	11.5%	12.1%	11.3%	(13.9%)
Income (Loss) before interest and taxes as a percent of capitalization (4)	18.3%	18.7%	19.0%	18.0%	(2.3%)
Pre-tax return on total assets (5)	10.1%	10.3%	10.6%	9.7%	(1.8%)

* Includes unfavorable cumulative effect of accounting changes of $30.4 million in 1994 and $872.1 million in 1992.

(1) GM Class H cash dividends divided by available separate consolidated net income for the prior year.

(2) Includes expenditures related to telecommunications and other equipment amounting to $187.9 million, $274.6 million, $255.8 million, $131.1 million, and $101.6 million in 1996, 1995, 1994, 1993, and 1992, respectively.

(3) Net Income (Loss) divided by average stockholder's equity (General Motors' equity in its wholly-owned subsidiary, Hughes). Holders of GM Class H common stock have no direct rights in the equity or assets of Hughes, but rather have rights in the equity and assets of GM (which includes 100% of the stock of Hughes).

(4) Income (Loss) before interest and taxes divided by average stockholder's equity plus average debt.

(5) Income (Loss) before Income Taxes divided by average total assets.

WHAT IS CLASS H STOCK**

GM Has Two Classes of Common Stock

This annual report is prepared for the benefit of holders of General Motors Corporation ("GM") Class H common stock. GM has two classes of common stock, Class H (ticker symbol GMH) and $1-2/3 par value (ticker symbol GM). Holders of Class H common stock have no direct rights in the equity or assets of Hughes Electronics Corporation (Hughes), but rather have rights in the equity and assets of GM, which includes 100 percent of the stock of Hughes. For purposes of determining the approximate earnings per share attributable to Class H common stock for financial reporting purposes, an investor may divide the quarterly Hughes earnings allocated to Class H common stock (the Available Separate Consolidated Net Income of Hughes) by the weighted-average number of shares of Class H common stock outstanding during such quarter. Earnings per share of GM $1-2/3 par value common stock are calculated on the consolidated earnings of GM excluding the aggregate earnings attributed to the outstanding shares of Class H common stock.

Class H is a GM Stock with Dividend Payments Linked to the Performance of Hughes

Class H common stock, which is issued by GM, is designed to provide holders with financial returns based on the performance of Hughes and not the performance of any other GM subsidiaries, divisions, or operations. The current dividend policy of the GM Board of Directors is to pay quarterly dividends on Class H common stock at an annual rate equal to approximately 35 percent of the Available Separate Consolidated Net Income of Hughes for the prior year as described herein. The Board may change dividend practices and policies with respect to Class H common stock, or any other class of GM common stock, at any time.

Earnings Attributable to Class H Stock are Not Affected by Hughes Aircraft Company Acquisition Intangibles

The Hughes Consolidated Statement of Income reflects amortization and adjustment of purchase accounting adjustments arising from GM's acquisition of Hughes Aircraft Company in 1985 of $122.3 million in 1996, $159.5 million in 1995 and $123.8 million in 1994. Also, $2.7 billion and $2.8 billion, respectively, of related unamortized intangible assets are included in the December 31, 1996 and 1995 Consolidated Balance Sheet. GM's Certificate of Incorporation provides that, in calculating the amount available for payment of dividends on Class H stock (which amount is also used to calculate the earnings attributable to Class H stock on a per share basis), amortization and adjustment of the excess purchase price for the acquisition of Hughes Aircraft Company will not be charged against the earnings of Hughes. For purposes of calculating the amounts available for payment of dividends on Class H stock and on the $1-2/3 par value stock, amortization and adjustment of such purchase accounting adjustments is charged against the amounts available for the payment of dividends on GM's $1-2/3 par value stock, not the Class H stock. This annual report also provides supplemental data that enables readers to review the financial performance of Hughes, excluding amortization and adjustment of GM purchase accounting adjustments related to Hughes Aircraft Company.

**Not a part of the Notes to Consolidated Financial Statements.

Board of Directors

C. Michael Armstrong
Chairman of the Board
and Chief Executive Officer
Hughes Electronics Corporation

Charles T. Fisher, III
Retired Chairman and President
NBD Bancorp Inc.
AUDIT COMMITTEE
EXECUTIVE COMPENSATION COMMITTEE

J. Michael Losh
Executive Vice President
and Chief Financial Officer
General Motors Corporation
AUDIT COMMITTEE

Charles H. Noski
Vice Chairman
and Chief Financial Officer
Hughes Electronics Corporation

Harry J. Pearce
Vice Chairman
General Motors Corporation

Edmund T. Pratt, Jr.
Chairman Emeritus
Pfizer Inc.
CHAIRMAN, EXECUTIVE COMPENSATION COMMITTEE

John F. Smith, Jr.
Chairman of the Board,
Chief Executive Officer
and President
General Motors Corporation

Michael T. Smith
Vice Chairman
Hughes Electronics Corporation

Thomas H. Wyman
Senior Advisor SBC Warburg Inc.,
Former Chairman
of the Board, CBS Inc.
CHAIRMAN, AUDIT COMMITTEE
EXECUTIVE COMPENSATION COMMITTEE

Hughes Officers

C. Michael Armstrong
Chairman of the Board
and Chief Executive Officer

Charles H. Noski
Vice Chairman
and Chief Financial Officer

Michael T. Smith
Vice Chairman

Steven D. Dorfman
Executive Vice President

John C. Weaver
Executive Vice President

Roxanne S. Austin
Senior Vice President,
Treasurer and Controller

Gareth C.C. Chang
Senior Vice President

John J. Higgins
Senior Vice President
and General Counsel

Jack A. Shaw
Senior Vice President

Ted G. Westerman
Senior Vice President

David R. Barclay
Vice President

Kenneth N. Heintz
Vice President

Calvin J. Kirby
Vice President

William D. Merritt
Vice President

Wanda K. Denson-Low
Secretary

GM Class H Common Stockholder Information

Market prices of General Motors Class H common stock ranged from $45.00 to $68.25 during calendar year 1996. The number of holders of record of GM Class H common stock as of December 31, 1996, was 247,782.

Transfer Agent and GM Class H Stock Registrar

Bank of Boston
c/o Boston Equiserve, L.P.
General Motors
Shareholder Services
P.O. Box 9254
Boston, Massachusetts
02205-9254
(800) 331-9922
http://www.equiserve.com

Independent Auditors

Deloitte & Touche LLP
1000 Wilshire Boulevard
Los Angeles, California
90017-2472

Investor Relations GM Class H Stock

c/o Hughes Electronics Corporation
P.O. Box 80028
7200 Hughes Terrace
Los Angeles, California
90080-0028
(310) 568-7868

Media Relations Department

Hughes Electronics Corporation
P.O. Box 80028
7200 Hughes Terrace
Los Angeles, California
90080-0028
(310) 568-6324

Stock Data

Ticker Symbol: GMH
Listed on the New York Stock Exchange.

Internet

View this Annual Report and other Hughes Electronics information on our World Wide Web site at http://www.hughes.com

THIS REPORT IS PRINTED IN ITS ENTIRETY ON RECYCLED PAPER.

DECLARATION OF SCOTT B. TOLLEFSEN

I, Scott B. Tollefsen, hereby declare under penalty of perjury that:

1. I am a Senior Vice President of Hughes Communications, Inc.
2. The foregoing is a true and correct copy of the consolidated financial statement of Hughes Electronics Corporation (a parent company of Hughes Communications, Inc.) for the year ended December 31, 1996, including the report of Deloitte & Touche LLP, the company's independent certified public accountants, as published in the 1996 annual report of Hughes Electronics Corporation.

Scott B. Tollefsen

Scott B. Tollefsen

December 22, 1997