the venture, while he contributes the innovative idea. Similarly, awarding a pioneer which joins a consortium an equal ownership share in that consortium while refunding 80 percent of its escrow funds would work to reward innovation and ensure that the pioneer received a return on the time and money investing in developing the innovative idea.

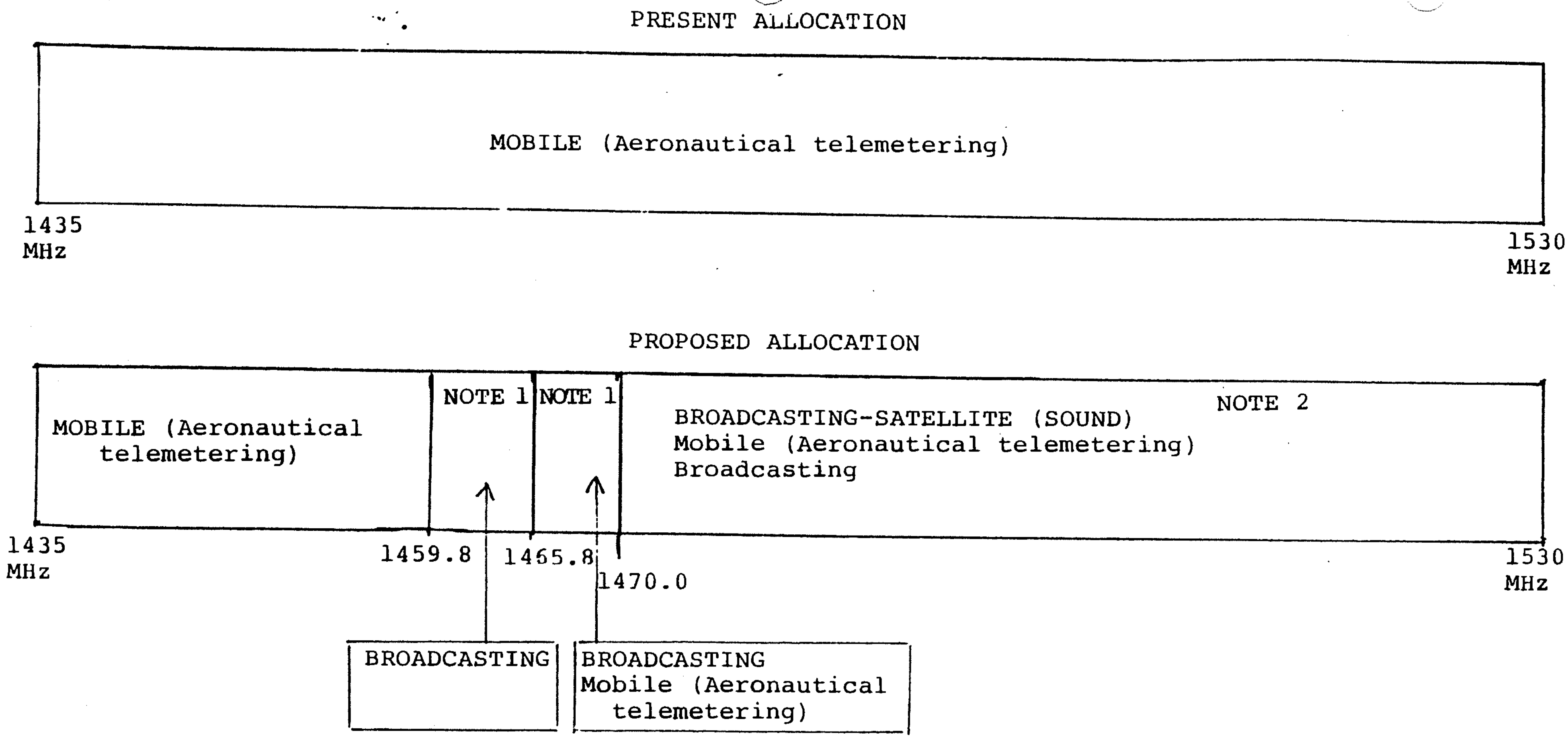
Alternatively, the Commission might require that the five million dollars deposited in escrow remain in escrow for the use of the consortium but provide that the pioneer receive a greater equity interest in the ratio of three to one. Thus, if seven entities were to join the consortium, the pioneer would have three ownership shares, while the remaining six participants would each receive one ownership share. Thus, in this example, the pioneer would have a one-third equity interest in the consortium licensee, and each of the remaining participants would have a one-ninth equity interest. This alternative also would promote the Commission's stated goal of encouraging innovation by assuring the innovator that it would be able to recoup its investment in developing a new service. Denying both of these alternative suggestions, on the other hand, would eliminate any incentive to invest considerable resources in research and development of a new service.

VIII. PROPOSED RULES

To implement the proposed spectrum allocation changes, it will be necessary to change the Table of Allocations which appears at Section 2.106 of this Commission's Rules, as indicated in Table 1.

Additionally, for the reasons specified herein, the Commission should

- Require that any unit manufactured to provide CD radio service also contain additional capability to receive both AM and FM signals (see pages 9 and 10, supra);
- Permit the provider of transponders for sale for the provision of a satellite CD radio service, as described herein, to operate as a private carrier (i.e., on a non-broadcast, non-common carrier basis) (see pp. 16-22, supra);
- Impose minimal additional licensing and regulatory requirements on broadcasters who either acquire CD satellite radio channels to provide a superstation signal, or broadcasters who obtain one of the terrestrial CD radio channels described herein, or providers of subscription radio services via the satellite radio transponders (see pp. 22-25);
- Establish processing rules to expedite action on the petition and in particular,
  - Immediately accept the petition for rulemaking, place it on public notice and invite comments.
  - Immediately accept CD Radio, Inc.'s application and process it in parallel with the rulemaking proceeding.



Notes

1. In the band 1459.8-1470.0 MHz, the entire 10.2 MHz would be available for terrestrial broadcasting in major metropolitan areas. Outside those areas, 4.2 MHz of the band could be assigned only for terrestrial broadcasting, and 6.0 MHz could be assigned only for Mobile (Aeronautical telemetering). Terrestrial and satellite broadcasting would be limited to 34 channels carrying 256 kb/s transmissions within a 300 kHz bandwidth.

2. The band 1470-1530 MHz is divided into three sub-bands of 19.8 MHz each, for broadcasting-satellite use in Eastern, Central and Western parts of the United States, respectively. Broadcasting-satellite services are limited to 34 channels carrying 256 kb/s transmissions within a 300 kHz bandwidth. The two sub-bands not used in an area for satellite broadcasting, would be available for assignment to terrestrial repeaters of satellite transmissions in urban areas, and for Mobile (Aeronautical telemetering) elsewhere throughout the United States.

Table 1. Present and Proposed Domestic Allocation for CD Radio Service

- Require that any competing applicants form a consortium to construct, launch and operate the system.

- In order to prevent speculative applications, require participants in the consortium to post a five million dollar deposit into an escrow account.

- Require all applicants for the new service to pay filing fees which include launch and operation of a satellite CD radio system, as well as the filing fee for construction of such a system (see p. 37 _supra_.).

° Take steps to place the question of an allocation for a CD radio service as described herein on the agenda for WARC-92.

° Grant a pioneer's preference to CD Radio, Inc. for proposing and applying for the CD Radio Service by granting CD Radio, Inc. an 80% rebate in the 5 million dollar escrow account, or a three-for-one equity position in the consortium (see pp. 40-41, _supra_).

IX. CONCLUSION

In summary, CD Radio, Inc. submits that there is a market for a universal CD radio service. The requested allocation is an efficient and effective use of orbital and spectrum resource and can be implemented through geographic sharing without significant interference to other users.

For the foregoing reasons, CD Radio, Inc. requests the FCC to institute promptly a rulemaking proceeding looking toward the allocations requested herein and accept the attached application.

Respectfully submitted,

SATELLITE CD RADIO, INC.

By________________________
Peter Dolan
President

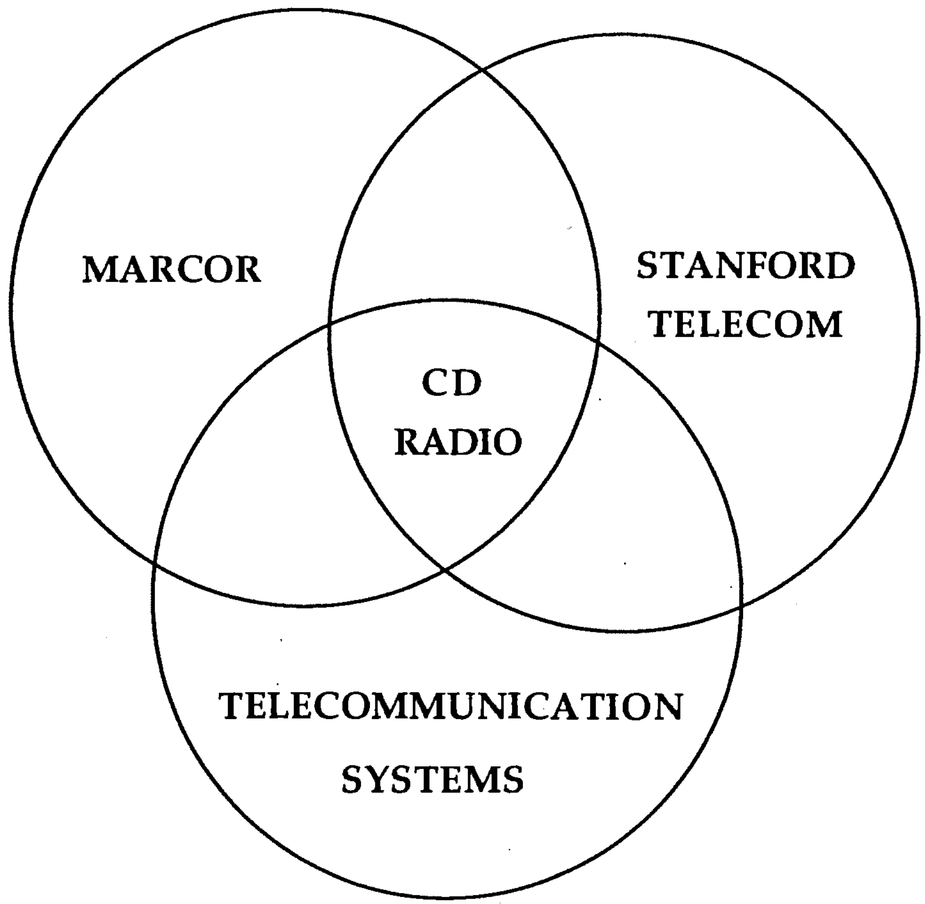
Techworld Plaza
800 K Street, N.W.
Suite 750
Washington, D.C. 20001-8000
(202) 408-0080

May 18, 1990

my/jge.21cdpet

Figure 2

CD RADIO SYSTEM ENGINEERING



flow from the sales of channels on the CD Radio Channel collateralizes project financing of new satellite construction. A working capital fund of $275 million will nevertheless be required due to timing and risk management issues.

Cash flows in the project as follows:

Satellite System Provider:	$60 Million/Satellite/Year for 5 Years, Commencing Launch -- 5 Years.
Radio Channel Buyer:	$900,000/Channel/Satellite/Year, Commencing Launch + 1 Year; 100 Channels Per Satellite; 30% Loading Is Cashflow Breakeven.
Required Capital Outlay:	$60 Million/Satellite/Year for 5 Years = $300 Million.
Additional Cash Outlay:	$5 Million Terrestrial Station Network; $5 Million User Radio Set ASIC Dev't; $5 Million Ground Uplink Station; $15 Million -- Contingency
TOTAL CAPITAL:	<u>$330 Million</u>

<u>Source of Funds</u>

CD Radio, Inc. will obtain its funds from a mix of debt and equity capital, mostly structured through a $330 million project financing facility. The financing will be leveraged upon presales contracts with CD Radio, Inc. customers. Additionally early stage financing will come from Private Placement Financing and Corporate Partnerships.

CD Radio, Inc.'s financial plan is attached hereto as Appendix 1.

VI. LEGAL QUALIFICATIONS

A. Ownership

Satellite CD Radio, Inc. (referred to herein as "CD Radio, Inc.") was organized under the laws of Delaware for the primary purpose of entering the U.S. and international broadcasting-satellite (sound) services business. CD Radio, Inc. is 50 percent owned by MARCOR, a District of Columbia corporation engaged primarily in the communications consulting business, and 50 percent owned by New Era Corp., a Maryland corporation engaged primarily in technology development. New Era Corp. is 100 percent owned by Jean-Jacques Poutrel, a citizen of France. Although an alien will have an interest in CD Radio, Inc., grant of this application is not barred by the alien ownership restrictions of Section 310(b) of the Communications Act of 1934, as amended, because CD Radio, Inc. will be licensed as a private carrier.

B. FCC Form 430

CD Radio, Inc.'s legal qualifications are demonstrated in the FCC Form 430, "Common Carrier and Satellite Radio Licensee Qualification Report," attached hereto as Appendix 2.

C. Biographical Information

Biographical information on the officers and directors of CD Radio, Inc. appears on the following pages.

CD RADIO BOARD EXPERIENCE

Satellite Communications	ROTHBLATT (MARCOR)
Local Broadcasting	TAK (TAK COMMUNICATIONS)
Electronic Design	McCARTHY (INGENICO)
Radio Networks	MOUNTY (NBC/METROMEDIA)
System Design	MUMFORD (SYSTEM BUILDERS)
Consumer Electronics	ALPERT (STC/TELETRAK)

Martin Rothblatt

Biographical Summary

Martin Rothblatt graduated from the University of California at Los Angeles in 1981 with M.B.A., Juris Doctor and Communications Studies degrees. He subsequently practiced communications law at the Washington, D.C. firm of Covington & Burling, where he represented the television broadcasting industry in high definition television (HDTV) matters. In 1983 he opened a space business consultancy which developed business and regulatory plans for several currently operating satellite systems. The consultancy also represented the National Academy of Sciences on FCC radio frequency matters.

In 1985 Mr. Rothblatt accepted an offer to head up Geostar Corporation, at that time a start-up firm. Under his leadership as President & CEO, Geostar launched the world's first nationwide mobile communications and positioning system, and co-developed with Hughes and Sony the industry's first hand-held satellite dish. By 1989 Geostar's accomplishments supported a valuation in excess of $150 million.

Mr. Rothblatt also has lectured on domestic and international telecommunications policy at U.C.L.A., University of Maryland and the George Washington University's Graduate School.

In 1989 Mr. Rothblatt formed MARCOR, a project management and consulting firm specializing in the development of critical 1990's technologies, especially those merging or combining multiple high-tech systems.

Peter J. Dolan

Biographical Summary

Peter Dolan is CD Radio's President. Prior to his appointment as President of CD Radio, Mr. Dolan served as Chief Financial Officer of MARCOR Incorporated, where he had responsibility for business planning and development.

Earlier in the 1980's Mr. Dolan served as Vice President and Chief Financial Officer of Crico Communications Corporation. At Crico Mr. Dolan was responsible for the financial structuring, management information systems and banking relationships of several radio communications properties.

Mr. Dolan also worked as accountant-in-charge at Coopers & Lybrand and is a member of the American Institute of Certified Public Accountants and the Congressional Country Club.

Thomas James Dougherty, Jr.

Biographical Summary

Mr. Dougherty, the Secretary and Treasurer of Satellite CD Radio, Inc., was born in Washington, D.C. in 1953. He graduated from Denison University in 1975 and earned his Juris Doctorate from The Catholic University Law School, where he was an editor of the law journal.

After law school, Mr. Dougherty joined Fletcher, Heald & Hildreth as an associate. Currently, Mr. Dougherty is a partner of that firm.

Mr. Dougherty's law practice principally involves the representation of lenders to telecommunications industries as business counsel and the representation of communications companies before the Private Radio and Common Carrier Bureaus of the Commission, which communications practice is oriented toward paging cellular radio and wireless cable. Mr. Dougherty was an active participant in the Commission's industry Advisory Committee for the WARC-83 and in the Commission's General Docket No. 80-603, both considering the international and domestic implications for the allocation of frequency to the Direct Broadcast Satellite Service. In addition, Mr. Dougherty participated in the Space WARC industry Advisory Committee, tasked by the Commission to assist in the identification of the requirements of the United States for satellite frequencies for the 1990s and beyond.

Mr. Dougherty is a member of the Federal Communications Bar Association, the Association of Commercial Finance Attorneys and the American Bar Association (Section of Corporation, Banking and Business Law).

Mr. Kevin MacCarthy

Biographical Summary

Mr. Kevin MacCarthy is a highly respected corporate attorney and international businessman. Several very large and successful French-American business projects have been accomplished under his guidance.

Mr. MacCarthy is also President of New Era Corporation, a Maryland company affiliated with the Ingenico Group. The Ingenico Group, a public European Company, is a world leader in the credit card verification, electric fund transfer and smart card technology business sectors.

Michael S. Alpert

Biographical Summary

Mr. Alpert is an experienced senior management executive with a demonstrated record of over 20 years of accomplishments in successfully building and developing companies within large corporate environments and more traditional entrepreneurial settings. In January 1986, after a distinguished eleven year career with COMSAT, Mr. Alpert established Alpert & Associates, a consulting firm providing services to the communications, information, broadcasting and entertainment industries and to early stage growth companies.

Alpert & Associates specializes in identifying trends and new opportunities in the communications and information industries and in supporting emerging business. The firm has been retained by large companies to assist them in identifying, planning, marketing and implementing new lines of business. In its support of emerging businesses, Alpert & Associates' services include business plan development, senior level marketing, strategic alliance formulation and equity financing. Since 1987, the firm assisted its client companies in raising over $19 million. Venture capitalists retain the services of the firm to evaluate specific product and service opportunities.

Mr. Alpert is regarded as a communications industry expert, has published articles, and is a frequent speaker at industry functions. As head of Corporate Planning and Development for COMSAT, Mr. Alpert created the direct broadcast satellite (DBS) business concept and then led COMSAT's DBS efforts for its subsidiary, Satellite Television Corporation. In addition to formulating corporate strategy and developing new business opportunities for COMSAT, Mr. Alpert had P&L responsibility for a group of high technology companies in the manufacturing and computer-aided engineering areas.

Early in his career, Mr. Alpert's entrepreneurial instincts surfaced, and he was elected Chairman and Chief Executive Officer of a short-haul transportation company. During this time, he successfully built the company and was involved in all financing stages from the initial venture capital infusion to a public offering.

Mr. Alpert received his MBA degree from Harvard Business School and his AB degree with honors in Economics from Cornell University. He is also a CPA.

Mr. Robert Mounty

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Mr. Robert Mounty is currently President of Mounty Communications Company, A communications acquisitions and investment business in New York City. From 1975 to 1987 Mr. Mounty held various senior radio network positions at NBC, including Executive Vice President of NBC Radio Division. While holding these positions, Mr. Mounty:

-- Directed the launching of NBC's News and Information Service;

-- Made the traditional NBC Radio Network profitable;

-- Conceived NBC's young adult radio network;

-- Established NBC's Talknet, America's most listened to telephone talk radio programming;

-- Redirected WKYS FM into Washington D.C.'s #1 audience delivery;

-- Transformed WNBC AM New York to market leadership.

Prior to his successful tenure at NBC, Mr. Mounty held senior management positions at Metromedia during the 1960's and early 1970's. These positions included Executive Vice President and General Manager, WNEW, which became America's top revenue producing station under his leadership.

Mr. Mounty has also served for many years as a member of the International Radio and Television Society Board of Governors, the Radio Advertising Bureau Board of Directors, and the New York Radio Broadcasters Association. Mr. Mounty has also volunteered his efforts to various New York City municipal projects.

Yovette M. Mumford

Biographical Summary

Ms. Yovette Mumford has more than 10 years' experience in the application of computers in science and engineering disciplines. Prior to founding System Builders, Inc., of which she is President and CEO, she was an Internal Scientific & Engineering Products Consultant to National Accounts at Unisys Corporation. She also held senior posts at IBM.

Ms. Mumford has managed a major budget for MCI Telecommunications Corporation and coordinated a staff of over 200 people. She designed a circuit layout and implemented a computer system for MCI in the MCI vs. AT&T antitrust litigation. She was government contracts attorney for the Washington D.C. law firm of Steptoe & Johnson. She holds a BA in English and A BS in Electrical Engineering from Carleton College, and a JD from the University of Maryland Law School. She is one of very few black women to receive the prestigious International Collegiate Award for study at Oxford University, and is a member of the Association of Women Inventors, and Women for the Commercialization of Space.

Sharad K. Tak

Biographical Summary

Sharad Tak is a U.S. citizen who came to America from India in 1968 in order to obtain his masters degree in computer science. Subsequently, Mr. Tak worked as a consultant in a company providing services to the federal government. By 1974 Mr. Tak decided to form his own company, now ST System Corporation (STX), that would provide hi-tech consulting services to the federal government. STX utilized U.S. laws that allowed citizens with minority backgrounds to get set aside contracts from the Government. By 1989 STX had revenues in excess of $63 million, an order backlog of $220 million, and 900 employees, the majority of whom have higher degrees of learning.

STX allowed Mr. Tak to expand into the ownership of real estate and then in 1984 Mr. Tak decided that the opportunities in the U.S. television and radio industry were so good, and better suited to his talents, that he decided to go ahead and form Tak Com. The reasons for Mr. Tak were as follows:

- The broadcast industry with TV, radio and cable had a history of stable and strong growth that created and continues to create tremendous appreciation in station or system values.

- The industry offered excitement and power due to the growth of home entertainment demand in a more affluent U.S. population.

- His ability to add value, through improved financial results, could be carried into this industry where many stations operated with less stringent controls as well as his ability to hire and retain good management for longer time frames due to generous bottom line oriented equity sharing plans.

Mr. Tak is currently sole shareholder of Tak Communications, Inc. (Tak Com), a Delaware corporation, which owns and operates six network affiliated television stations which include WGRZ-TV, Buffalo, NY; KITV-TV, Honolulu, HI; KMAU, Wailuku, HI; KHVO-TV, Hilo, HI; WKOW-TV, Madison, WI; WAOW-TV, Wausau, WI; WXOW-TV, La Crosse, WI; WQOW-TV, Eau Claire, WI; and three FM radio stations which include WUSL-FM, Philadelphia, PA; WJQY-FM, Ft. Lauderdale, FL; and WKIO-FM, Champaign/Urbana, IL.

BIOGRAPHY OF THOMAS J. DOUGHERTY

Fifth Estater

Metromedia's Mr. Fixit

A little more than 26 years ago, in September 1961, Tom Dougherty, a 36-year-old lawyer who was leaving a job as legal assistant to FCC Commissioner Robert E. Lee, opened a Washington office for Metromedia Inc., then one of the broadcasting business's up-and-coming operations. Later this month, after having helped Metromedia's then-and-current leader, John Kluge, to develop the company into one of the giants of the industry and then dispose of all of its broadcasting outlets—plus some newly acquired paging and cellular radio properties—Dougherty will close the office of what is now the Metromedia Co. Over the years, Kluge and Metromedia made billions; Dougherty accumulated a lot of vacation time.

In his service to Metromedia, Dougherty has earned a reputation as a lawyer who is more than simply able. He is known to have the creative instincts of a fixer and the nerves of a second-story man, combined with the morality of an Eagle Scout. What's more, he has impressed those who know him as having the energy of a marathoner; his capacity to turn out work is enormous. Except for Preston Padden, now the president of the Association of Independent Television Stations, whom Dougherty discovered as a switchboard operator at Metromedia's WTTG(TV) Washington and eventually hired, in 1973, as the company's assistant general counsel, Dougherty did virtually all of Metromedia's legal work in Washington—the comments that were filed in FCC rulemakings and the litigation involved in protecting Metromedia's licenses—alone.

Padden, who worked with Dougherty from 1973 until 1985, remains wide-eyed in his admiration. "In my judgment, [Tom] has made more law and done more innovative regulatory maneuvers over the years in helping to build the Metromedia group than anyone else in Washington," Padden says.

Perhaps Dougherty's nerviest effort was in seeking to persuade the FCC in 1983 that Kluge's proposal to take Metromedia private in a leveraged buyout for $1.5 billion was actually only a pro forma transfer that could be accomplished with a short-form as opposed to a long-form application. Never mind that Kluge would be increasing his ownership of a company owning seven AM, seven FM and seven television stations from 26% to 82%. (It rose to 97.5% when Metromedia became a partnership, in 1986.) How could that be accomplished on a short form, which would eliminate a mandatory 30-day waiting period before the commission could approve it, as well as the statutory right of other parties to petition to deny the transfer—particularly in the face of oppositions filed by citizen groups? Four years later, Dougherty still finds it hard to suppress a smile when he says, "There was no transfer [of control]." Kluge, he argues, as he did successfully before the commission and, later, in court, "had always been in control."

THOMAS JAMES DOUGHERTY—senior vice president, regulatory affairs and associate general counsel, Metromedia Co., Washington, and officer of various Metromedia subsidiaries; b. Grafton, N.D., June 20, 1925; U.S. Navy, 1943-1946; University of North Dakota, Grand Forks, June 1946-September 1947; B.A., George Washington University, 1950; J.D., George Washington University law school, 1953; law clerk then associate, Dow, Lohnes & Albertson, Washington, 1953-1957; legal assistant, FCC Commissioner Robert E. Lee, December 1957-September 1961; Metromedia Inc., September 1971, assistant general counsel, then rose through various positions until vice president and associate general counsel, in December 1979; present position since January 1987; m. Anne Lenoir Diffenderfer, Dec. 29, 1950; children, Thomas Jr., 34, Scott, 32, Craig, 31; Anne, 27; Diane, 25; Paul, 22; Sharon, 19; Melanie, 17

Considerable importance attached to the tactic. First, there was Kluge's question as to whether the transfer could be accomplished in six months—and Dougherty's assurance that it could. For speed was of considerable importance. "The longer these things drag," Dougherty says, "the greater the impact on the operation. There's all this money, most of it in interest. Those expenses go through the roof." Then, too, if the buyout were treated as a conventional transfer of control, the one-to-a-market rule would have required the divestiture of radio stations co-located with television outlets, and the applications for three major-market cellular radio grants for which Metromedia was then competing could have been jeopardized.

But until the buyout was closed, Dougherty did his share of worrying. "It was," he says, "a very nervous time."

Dougherty's and Metromedia's successes at the commission were a function not only of the zeal and creativity with which Dougherty attacked his work but, in Padden's view, of the reputations of both. Kluge, he says, benefitted from "the goodwill" he maintains Metromedia enjoyed at the FCC and on Capitol Hill. For Kluge ran a tight ship, and Dougherty operated as point man in the defense of Metromedia's reputation. Kluge himself, in discussing Dougherty, talks first of his character: "He's straight as an arrow. He's very forthright. We've been very fortunate that over so many years he has kept us well informed. He's never gilded the lilly, never understated the facts."

There is about Dougherty a rough-hewn quality that sets him apart from many lawyers. His language is as often sandlot as Blackstone—which stood him in good stead in the days of the citizen movement, when he occasionally stood nose to nose with types who expressed complaints about Metromedia's stations—and its lawyers—in rough-hewn language.

All of which tends to obscure his talents as a lawyer. But again, those talents are not limited to lawyering. There was the evening of June 6, 1982, less than 24 hours short of an FCC deadline for filing applications for cellular radio, a field Kluge had decided to enter in a major way. Dougherty had told his secretary, who had typed one of the contracts involved, to go home. The contract had been the subject of lengthy negotiations and Dougherty was not interested in any changes. But, just in case, he loaded a typewriter into his car before driving to a meeting with two groups of lawyers. When he arrived, he recalls, "I announced, 'If anyone wants to change even a comma, the typewriter is in the trunk of my car. You can go down there and get it and make the change, because I can't type.' Nothing got changed."

The agreement was one of a number that led to Metromedia's becoming a significant force in the paging and cellular radio businesses, so significant that it was able to sell a large chunk of those holdings to Southwestern Bell for $1.3 billion. That sale virtually took Metromedia out of the telecommunications business. Its remaining properties are partnerships managed by others. Earlier, Metromedia had sold its seven top-10 market television stations (the Boston property was spun off to Hearst Corp. for $450 million) to Australian Rupert Murdoch for over $2 billion and all but one of its remaining 10 radio stations (WCBM(AM) Baltimore was disposed of later) and Texas State Networks to what is now the Metropolitan Broadcasting Co. for $285 million.

So where does Dougherty go from here? "I've missed so many vacations," he says. "So many were canceled because of business. I want to take my wife on one. That's the first thing. Then I'll decide what I want to do when I come back." But his preference is clear. "I love broadcasting," he says. "The people in it are intelligent. It moves all the time. There is an excitement not found in any other industry."

Any broadcaster out there need a lawyer with brains and nerve?

D. Regulatory Classification

CD Radio, Inc. proposes to operate on a private carrier basis pursuant to Domestic Fixed-Satellite Transponder Sales, 90 F.C.C.2d 1238 (1982). CD Radio, Inc. will sell transponders to both terrestrial broadcasters and to non-broadcasters providing subscription or pay-per-listen services. Subscription service users could, for example, insert "smart cards" into their radio receivers in order to decode the CD radio signal.

The legal justification for licensing CD Radio, Inc. on a private carrier basis and the information required in paragraph 55 of that decision are set forth in the accompanying Petition for Rule Making under the "Regulatory Classification" section and in CD Radio, Inc.'s "Development Plan," attached hereto as Appendix 3.

E. Public Interest

A grant of this application for a satellite CD radio system will serve the public interest by enhancing the safety-of-life aspects of radio technology, by ensuring more universal access to compact disk quality radio programming, and by contributing positively to America's trade balance with other countries. These goals -- safety of life, universal service, and global competitiveness -- are fundamental pillars of the public interest.

The frequency spectrum is being put to it highest uses when it helps to save lives, enhance quality of life, and strengthen our economy. CD Radio, Inc.'s instant proposal would accomplish each of these objectives. Creating a privately operated CD-quality broadcasting system is therefore four-square within the Commission's mandate to "encourage the larger and more effective use" of the frequency spectrum.

CD sales now far outpace sales of long playing (LP) records, and are quickly closing in on sales of audio cassette tapes. CD radio is being delivered via cable-TV to select homes. A large nationwide roll-out of compact-disk radio, via cable TV, is expected by the summer of 1990. CD radio quality is the best that the human ear can detect. Eventually, non-CD quality radio will appear as primitive as Edison's wax cylinder recordings.

One of the areas in which the most dramatic improvements in sound quality reception is possible is in automobiles. The United States has become an increasingly mobile society. As urban areas expand, more and more individuals cannot listen to the same radio station as individuals commute across larger areas as a part of their daily activities. Furthermore, the amount of time people spend in their cars is expected to continue to increase. Radio signals are subject to fade-ins and fade-outs within a defined coverage area. Coupled with the congestion and interference problems continually experienced in the AM/FM broadcast bands, mobile radio reception clearly has vast room for improvement. CD Radio, Inc.'s proposed system will provide mobile audiences with the clearest and most consistent signal ever heard. Moreover, since CD Radio, Inc.'s proposed system is national in extent, no disruption of program reception will be experienced as the mobile audience commutes between distant points.

CD quality radio can be made available on a spectrum-efficient basis to everyone, whether or not they are part of a cable-TV neighborhood. The technology proposed by CD Radio, Inc. herein would require the use of only 60 MHz of bandwidth. It squeezes the 1.4 Mb/s data rate of CD sound into about one-third the normal bandwidth. This is the most spectrum-efficient modulation method for compact disk quality radio that has been developed.

Flexibility and Spectrum Efficiency of CD Radio, Inc.'s System. CD Radio, Inc.'s proposed system will be extraordinarily flexible in its ability to transmit an array of CD-quality programming. It will also be especially spectrum efficient by enabling both satellite and terrestrial transmitters to share the same frequency band without mutual interference.

With respect to flexibility, programming will be able to be heard via CD Radio, Inc.'s system throughout the United States. Local stations, regional or national stations, and new special interest stations, can all flexibly be accommodated by CD Radio, Inc.'s concept. With respect to spectrum efficiency, under CD Radio, Inc.'s proposal, no existing users will need to wholly vacate their frequency bands. CD Radio, Inc.'s concept efficiently shares the proposed frequency band for its satellite and terrestrial transmissions with existing aeronautical telemetry links in the 1460-1530 MHz band.

Commercial Aspects of the CD Radio, Inc. System. CD Radio, Inc.'s system will be an exemplary case of successful space commercialization. The United States has invested many billions of dollars in the development of a space technology infrastructure, but the payoffs have been few and far between. CD Radio, Inc.'s commercial focus augurs well for it to join the ranks of successful commercial space programs such as those proposed by Orbital Sciences and Geostar.

All Communication Functions Performed by CD Radio, Inc.'s System Have Been Deemed to be in the Public Interest, Convenience and Necessity. Since each of the individual services provided by CD Radio, Inc.'s system are in the public interest, convenience and necessity, the grant of this application is well justified.

CD Quality Radio Transmissions. The FCC has a long history of working to improve the quality of America's broadcast transmission networks. AM-Stereo, FM Radio, TV Stereo, NTSC-II, and HDTV (in process) are among the quality-improvement actions adopted by the FCC in furtherance of the public interest, convenience and necessity.

The authorization of the world's first CD-quality radio broadcasting system is wholly consistent with the Commission's many previous actions aimed at qualitative improvements in broadcast telecommunications.

Hundreds of Channels Will Be Available Throughout the United States and Overseas. The Commission has many times found that additional choices of stations are in the public interest. Over the years the Commission has taken numerous actions to increase the number of television stations, radio stations, and satellite channels serving various markets. The system design of CD Radio, Inc. -- based on the delivery of 100 channels throughout the U.S. -- is consistent with Commission actions to serve the public interest by ensuring a diverse array of programming alternatives. The benefits to national advertisers are amply demonstrated in Appendix 4 hereto.

Emergency Access Channel. CD Radio, Inc. will set aside one channel for use as an emergency access channel. This

Mr. Kevin MacCarthy

Biographical Summary

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Mr. MacCarthy is also President of New Era Corporation, a Maryland company affiliated with the Ingenico Group. The Ingenico Group, a public European Company, is a world leader in the credit card verification, electric fund transfer and smart card technology business sectors.

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Mr. Alpert received his MBA degree from Harvard Business School and his AB degree with honors in Economics from Cornell University. He is also a CPA.

Mr. Robert Mounty

Biographical Summary

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-- Transformed WNBC AM New York to market leadership.

Prior to his successful tenure at NBC, Mr. Mounty held senior management positions at Metromedia during the 1960's and early 1970's. These positions included Executive Vice President and General Manager, WNEW, which became America's top revenue producing station under his leadership.

Mr. Mounty has also served for many years as a member of the International Radio and Television Society Board of Governors, the Radio Advertising Bureau Board of Directors, and the New York Radio Broadcasters Association. Mr. Mounty has also volunteered his efforts to various New York City municipal projects.

Yovette M. Mumford

Biographical Summary

Ms. Yovette Mumford has more than 10 years' experience in the application of computers in science and engineering disciplines. Prior to founding System Builders, Inc., of which she is President and CEO, she was an Internal Scientific & Engineering Products Consultant to National Accounts at Unisys Corporation. She also held senior posts at IBM.

Ms. Mumford has managed a major budget for MCI Telecommunications Corporation and coordinated a staff of over 200 people. She designed a circuit layout and implemented a computer system for MCI in the MCI vs. AT&T antitrust litigation. She was government contracts attorney for the Washington D.C. law firm of Steptoe & Johnson. She holds a BA in English and A BS in Electrical Engineering from Carleton College, and a JD from the University of Maryland Law School. She is one of very few black women to receive the prestigious International Collegiate Award for study at Oxford University, and is a member of the Association of Women Inventors, and Women for the Commercialization of Space.

Sharad K. Tak

Biographical Summary

Sharad Tak is a U.S. citizen who came to America from India in 1968 in order to obtain his masters degree in computer science. Subsequently, Mr. Tak worked as a consultant in a company providing services to the federal government. By 1974 Mr. Tak decided to form his own company, now ST System Corporation (STX), that would provide hi-tech consulting services to the federal government. STX utilized U.S. laws that allowed citizens with minority backgrounds to get set aside contracts from the Government. By 1989 STX had revenues in excess of $63 million, an order backlog of $220 million, and 900 employees, the majority of whom have higher degrees of learning.

STX allowed Mr. Tak to expand into the ownership of real estate and then in 1984 Mr. Tak decided that the opportunities in the U.S. television and radio industry were so good, and better suited to his talents, that he decided to go ahead and form Tak Com. The reasons for Mr. Tak were as follows:

- The broadcast industry with TV, radio and cable had a history of stable and strong growth that created and continues to create tremendous appreciation in station or system values.

- The industry offered excitement and power due to the growth of home entertainment demand in a more affluent U.S. population.

- His ability to add value, through improved financial results, could be carried into this industry where many stations operated with less stringent controls as well as his ability to hire and retain good management for longer time frames due to generous bottom line oriented equity sharing plans.

Mr. Tak is currently sole shareholder of Tak Communications, Inc. (Tak Com), a Delaware corporation, which owns and operates six network affiliated television stations which include WGRZ-TV, Buffalo, NY; KITV-TV, Honolulu, HI; KMAU, Wailuku, HI; KHVO-TV, Hilo, HI; WKOW-TV, Madison, WI; WAOW-TV, Wausau, WI; WXOW-TV, La Crosse, WI; WQOW-TV, Eau Claire, WI; and three FM radio stations which include WUSL-FM, Philadelphia, PA; WJQY-FM, Ft. Lauderdale, FL; and WKIO-FM, Champaign/Urbana, IL.

BIOGRAPHY OF THOMAS J. DOUGHERTY

Fifth Estater

Metromedia's Mr. Fixit

A little more than 26 years ago, in September 1961, Tom Dougherty, a 36-year-old lawyer who was leaving a job as legal assistant to FCC Commissioner Robert E. Lee, opened a Washington office for Metromedia Inc., then one of the broadcasting business's up-and-coming operations. Later this month, after having helped Metromedia's then-and-current leader, John Kluge, to develop the company into one of the giants of the industry and then dispose of all of its broadcasting outlets—plus some newly acquired paging and cellular radio properties—Dougherty will close the office of what is now the Metromedia Co. Over the years, Kluge and Metromedia made billions; Dougherty accumulated a lot of vacation time.

In his service to Metromedia, Dougherty has earned a reputation as a lawyer who is more than simply able. He is known to have the creative instincts of a fixer and the nerves of a second-story man, combined with the morality of an Eagle Scout. What's more, he has impressed those who know him as having the energy of a marathoner; his capacity to turn out work is enormous. Except for Preston Padden, now the president of the Association of Independent Television Stations, whom Dougherty discovered as a switchboard operator at Metromedia's WTTG(TV) Washington and eventually hired, in 1973, as the company's assistant general counsel, Dougherty did virtually all of Metromedia's legal work in Washington—the comments that were filed in FCC rulemakings and the litigation involved in protecting Metromedia's licenses—alone.

Padden, who worked with Dougherty from 1973 until 1985, remains wide-eyed in his admiration. "In my judgment, [Tom] has made more law and done more innovative regulatory maneuvers over the years in helping to build the Metromedia group than anyone else in Washington," Padden says.

Perhaps Dougherty's nerviest effort was in seeking to persuade the FCC in 1983 that Kluge's proposal to take Metromedia private in a leveraged buyout for $1.5 billion was actually only a pro forma transfer that could be accomplished with a short-form as opposed to a long-form application. Never mind that Kluge would be increasing his ownership of a company owning seven AM, seven FM and seven television stations from 26% to 82%. (It rose to 97.5% when Metromedia became a partnership, in 1986.) How could that be accomplished on a short form, which would eliminate a mandatory 30-day waiting period before the commission could approve it, as well as the statutory right of other parties to petition to deny the transfer—particularly in the face of oppositions filed by citizen groups? Four years later, Dougherty still finds it hard to suppress a smile when he says, "There was no transfer [of control]." Kluge, he argues, as he did successfully before the commission and, later, in court, "had always been in control."

Thomas James Dougherty—senior vice president, regulatory affairs and associate general counsel, Metromedia Co., Washington, and officer of various Metromedia subsidiaries; b. Grafton, N.D., June 20, 1925; U.S. Navy, 1943-1946; University of North Dakota, Grand Forks, June 1946-September 1947; B.A., George Washington University, 1950; J.D., George Washington University law school, 1953; law clerk then associate, Dow, Lohnes & Albertson, Washington, 1953-1957; legal assistant, FCC Commissioner Robert E. Lee, December 1957-September 1961; Metromedia Inc., September 1971, assistant general counsel, then rose through various positions until vice president and associate general counsel, in December 1979; present position since January 1987; m. Anne Lenoir Diffenderfer, Dec. 29, 1950; children, Thomas Jr., 34, Scott, 32, Craig, 31; Anne, 27; Diane, 25; Paul, 22; Sharon, 19; Melanie, 17

Considerable importance attached to the tactic. First, there was Kluge's question as to whether the transfer could be accomplished in six months—and Dougherty's assurance that it could. For speed was of considerable importance. "The longer these things drag," Dougherty says, "the greater the impact on the operation. There's all this money, most of it in interest. Those expenses go through the roof." Then, too, if the buyout were treated as a conventional transfer of control, the one-to-a-market rule would have required the divestiture of radio stations co-located with television outlets, and the applications for three major-market cellular radio grants for which Metromedia was then competing could have been jeopardized.

But until the buyout was closed, Dougherty did his share of worrying. "It was," he says, "a very nervous time."

Dougherty's and Metromedia's successes at the commission were a function not only of the zeal and creativity with which Dougherty attacked his work but, in Padden's view, of the reputations of both. Kluge, he says, benefitted from "the goodwill" he maintains Metromedia enjoyed at the FCC and on Capitol Hill. For Kluge ran a tight ship, and Dougherty operated as point man in the defense of Metromedia's reputation. Kluge himself, in discussing Dougherty, talks first of his character: "He's straight as an arrow. He's very forthright. We've been very fortunate that over so many years he has kept us well informed. He's never gilded the lilly, never understated the facts."

There is about Dougherty a rough-hewn quality that sets him apart from many lawyers. His language is as often sandlot as Blackstone—which stood him in good stead in the days of the citizen movement, when he occasionally stood nose to nose with types who expressed complaints about Metromedia's stations—and its lawyers—in rough-hewn language.

All of which tends to obscure his talents as a lawyer. But again, those talents are not limited to lawyering. There was the evening of June 6, 1982, less than 24 hours short of an FCC deadline for filing applications for cellular radio, a field Kluge had decided to enter in a major way. Dougherty had told his secretary, who had typed one of the contracts involved, to go home. The contract had been the subject of lengthy negotiations and Dougherty was not interested in any changes. But, just in case, he loaded a typewriter into his car before driving to a meeting with two groups of lawyers. When he arrived, he recalls, "I announced, 'If anyone wants to change even a comma, the typewriter is in the trunk of my car. You can go down there and get it and make the change, because I can't type.' Nothing got changed."

The agreement was one of a number that led to Metromedia's becoming a significant force in the paging and cellular radio businesses, so significant that it was able to sell a large chunk of those holdings to Southwestern Bell for $1.3 billion. That sale virtually took Metromedia out of the telecommunications business. Its remaining properties are partnerships managed by others. Earlier, Metromedia had sold its seven top-10 market television stations (the Boston property was spun off to Hearst Corp. for $450 million) to Australian Rupert Murdoch for over $2 billion and all but one of its remaining 10 radio stations (WCBM(AM) Baltimore was disposed of later) and Texas State Networks to what is now the Metropolitan Broadcasting Co. for $285 million.

So where does Dougherty go from here? "I've missed so many vacations," he says. "So many were canceled because of business. I want to take my wife on one. That's the first thing. Then I'll decide what I want to do when I come back." But his preference is clear. "I love broadcasting," he says. "The people in it are intelligent. It moves all the time. There is an excitement not found in any other industry."

Any broadcaster out there need a lawyer with brains and nerve?

D. Regulatory Classification

CD Radio, Inc. proposes to operate on a private carrier basis pursuant to Domestic Fixed-Satellite Transponder Sales, 90 F.C.C.2d 1238 (1982). CD Radio, Inc. will sell transponders to both terrestrial broadcasters and to non-broadcasters providing subscription or pay-per-listen services. Subscription service users could, for example, insert "smart cards" into their radio receivers in order to decode the CD radio signal.

The legal justification for licensing CD Radio, Inc. on a private carrier basis and the information required in paragraph 55 of that decision are set forth in the accompanying Petition for Rule Making under the "Regulatory Classification" section and in CD Radio, Inc.'s "Development Plan," attached hereto as Appendix 3.

E. Public Interest

A grant of this application for a satellite CD radio system will serve the public interest by enhancing the safety-of-life aspects of radio technology, by ensuring more universal access to compact disk quality radio programming, and by contributing positively to America's trade balance with other countries. These goals -- safety of life, universal service, and global competitiveness -- are fundamental pillars of the public interest.

The frequency spectrum is being put to it highest uses when it helps to save lives, enhance quality of life, and strengthen our economy. CD Radio, Inc.'s instant proposal would accomplish each of these objectives. Creating a privately operated CD-quality broadcasting system is therefore four-square within the Commission's mandate to "encourage the larger and more effective use" of the frequency spectrum.

CD sales now far outpace sales of long playing (LP) records, and are quickly closing in on sales of audio cassette tapes. CD radio is being delivered via cable-TV to select homes. A large nationwide roll-out of compact-disk radio, via cable TV, is expected by the summer of 1990. CD radio quality is the best that the human ear can detect. Eventually, non-CD quality radio will appear as primitive as Edison's wax cylinder recordings.

One of the areas in which the most dramatic improvements in sound quality reception is possible is in automobiles. The United States has become an increasingly mobile society. As urban areas expand, more and more individuals cannot listen to the same radio station as individuals commute across larger areas as a part of their daily activities. Furthermore, the amount of time people spend in their cars is expected to continue to increase. Radio signals are subject to fade-ins and fade-outs within a defined coverage area. Coupled with the congestion and interference problems continually experienced in the AM/FM broadcast bands, mobile radio reception clearly has vast room for improvement. CD Radio, Inc.'s proposed system will provide mobile audiences with the clearest and most consistent signal ever heard. Moreover, since CD Radio, Inc.'s proposed system is national in extent, no disruption of program reception will be experienced as the mobile audience commutes between distant points.

CD quality radio can be made available on a spectrum-efficient basis to everyone, whether or not they are part of a cable-TV neighborhood. The technology proposed by CD Radio, Inc. herein would require the use of only 60 MHz of bandwidth. It squeezes the 1.4 Mb/s data rate of CD sound into about one-third the normal bandwidth. This is the most spectrum-efficient modulation method for compact disk quality radio that has been developed.

Flexibility and Spectrum Efficiency of CD Radio, Inc.'s System. CD Radio, Inc.'s proposed system will be extraordinarily flexible in its ability to transmit an array of CD-quality programming. It will also be especially spectrum efficient by enabling both satellite and terrestrial transmitters to share the same frequency band without mutual interference.

With respect to flexibility, programming will be able to be heard via CD Radio, Inc.'s system throughout the United States. Local stations, regional or national stations, and new special interest stations, can all flexibly be accommodated by CD Radio, Inc.'s concept. With respect to spectrum efficiency, under CD Radio, Inc.'s proposal, no existing users will need to wholly vacate their frequency bands. CD Radio, Inc.'s concept efficiently shares the proposed frequency band for its satellite and terrestrial transmissions with existing aeronautical telemetry links in the 1460-1530 MHz band.

<u>Commercial Aspects of the CD Radio, Inc. System.</u> CD Radio, Inc.'s system will be an exemplary case of successful space commercialization. The United States has invested many billions of dollars in the development of a space technology infrastructure, but the payoffs have been few and far between. CD Radio, Inc.'s commercial focus augurs well for it to join the ranks of successful commercial space programs such as those proposed by Orbital Sciences and Geostar.

<u>All Communication Functions Performed by CD Radio, Inc.'s System Have Been Deemed to be in the Public Interest, Convenience and Necessity</u>. Since each of the individual services provided by CD Radio, Inc.'s system are in the public interest, convenience and necessity, the grant of this application is well justified.

CD Quality Radio Transmissions. The FCC has a long history of working to improve the quality of America's broadcast transmission networks. AM-Stereo, FM Radio, TV Stereo, NTSC-II, and HDTV (in process) are among the quality-improvement actions adopted by the FCC in furtherance of the public interest, convenience and necessity.

The authorization of the world's first CD-quality radio broadcasting system is wholly consistent with the Commission's many previous actions aimed at qualitative improvements in broadcast telecommunications.

Hundreds of Channels Will Be Available Throughout the United States and Overseas. The Commission has many times found that additional choices of stations are in the public interest. Over the years the Commission has taken numerous actions to increase the number of television stations, radio stations, and satellite channels serving various markets. The system design of CD Radio, Inc. -- based on the delivery of 100 channels throughout the U.S. -- is consistent with Commission actions to serve the public interest by ensuring a diverse array of programming alternatives. The benefits to national advertisers are amply demonstrated in Appendix 4 hereto.

Emergency Access Channel. CD Radio, Inc. will set aside one channel for use as an emergency access channel. This channel could become a part of the Emergency Broadcast System, and be used for local, regional, or national emergencies. CD Radio, Inc. receivers will have the ability to tune in the emergency access channel upon receipt of a coded digital signal.

The Emergency Access Channel may be invaluable in many cases of distress. The Commission has long held that emergency channels directly implement the Communication Act's mandate that the frequency spectrum be used first and foremost to promote public safety.

A "Business Overview" which elaborates on some of the public interest benefits of CD Radio, Inc.'s proposed system is attached hereto as Appendix 4.

Appendix 1

Financial Plan

CD RADIO, INC.
Return to Investors
(in millions)

		Low Case	High Case
Exit Year	1996		
Exit year EBIT		146.85	146.85
Exit Multiple		6.00	8.00
Company Value		881.08	1,174.78
Add: Excess Cash		124.42	124.42
Total		1,005.50	1,299.19
Less:			
Senior Debt		329.57	329.57
Subordinated Debt		4.29	4.29
Working Capital Line		0.00	0.00
Available Cash		680.21	973.91
Split:			
Debt financing	20.00%	136.04	194.78
Common Shareholders	80.00%	544.17	779.13

CD RADIO, INC.
Income Statement
(in millions)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Revenues											
Channel sales	0.00	0.00	0.00	0.00	54.00	108.00	180.00	180.00	180.00	180.00	180.00
Facility Maintenance Fee	0.00	0.00	0.00	0.00	1.80	3.60	6.00	6.00	6.00	6.00	6.00
Royalties	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Revenues	0.00	0.00	0.00	0.00	55.80	111.60	186.00	186.00	186.00	186.00	186.00
Operating Expenses											
Satellite System	0.00	0.00	0.00	0.00	1.61	2.69	4.13	4.13	4.13	4.13	4.13
General & Admin	0.00	0.70	0.94	1.20	2.24	2.49	2.99	2.99	2.99	2.99	2.99
Depreciation	0.02	0.05	2.63	10.88	24.13	29.54	32.04	32.04	32.04	32.04	32.04
Total Operating Expenses	0.02	0.75	3.57	12.08	27.97	34.71	39.15	39.15	39.15	39.15	39.15
EBIT	-0.02	-0.75	-3.57	-12.08	27.83	76.89	146.85	146.85	146.85	146.85	146.85
Non-Operating Expenses											
Interest	0.00	0.03	1.78	5.80	18.42	38.85	47.06	43.57	36.19	28.81	21.42
Amortization	0.00	0.00	0.00	0.00	0.40	0.40	0.40	0.40	0.40	0.00	0.00
Total Non-Operating Expenses	0.00	0.03	1.78	5.80	18.82	39.25	47.46	43.97	36.59	28.81	21.42
Pre-Tax Income	-0.02	-0.77	-5.34	-17.87	9.01	37.64	99.39	102.87	110.26	118.04	125.43
Income Taxes	0.00	0.00	0.00	0.00	0.00	18.42	34.79	36.01	38.59	41.31	43.90
NET INCOME	-0.02	-0.77	-5.34	-17.87	9.01	19.22	64.60	66.87	71.67	76.73	81.53

	2001	2002	2003	2004	2005	2006
Revenues						
Channel sales	180.00	180.00	180.00	180.00	180.00	180.00
Facility Maintenance Fee	6.00	6.00	6.00	6.00	6.00	6.00
Royalties	0.00	0.00	0.00	0.00	0.00	0.00
Total Revenues	186.00	186.00	186.00	186.00	186.00	186.00
Operating Expenses						
Satellite System	4.13	4.13	4.13	4.13	4.13	4.13
General & Admin	2.99	2.99	2.99	2.99	2.99	2.99
Depreciation	32.04	32.03	31.99	29.42	21.17	7.92
Total Operating Expenses	39.15	39.14	39.10	36.53	28.28	15.03
EBIT	146.85	146.86	146.90	149.47	157.72	170.97
Non-Operating Expenses						
Interest	14.28	7.14	0.00	0.00	0.00	0.00
Amortization	0.00	0.00	0.00	0.00	0.00	0.00
Total Non-Operating Expenses	14.28	7.14	0.00	0.00	0.00	0.00
Pre-Tax Income	132.57	139.72	146.90	149.47	157.72	170.97
Income Taxes	46.40	48.90	51.41	52.32	55.20	59.84
NET INCOME	86.17	90.82	95.48	97.16	102.52	111.13

ASSUMPTIONS:

1	Satellite channel loading	
	1st yr	30%
	2nd yr	60%
	3rd yr	100%
2	Number of satellites	2
3	Satellite channel capacity	100
4	Channel sales price	9.00
	10 annual installments	0.90
5	System equipment useful life	12
6	Income tax rate	35%
7	Facility maintenance fee	6.00

CD RADIO, INC.
Cash Flow Statement
(in millions)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Begining Cash	0.00	2.25	11.03	7.81	3.89	36.00	83.73	124.42	167.37	215.12	267.53
Sources Of Funds											
Net Income	-0.02	-0.77	-5.34	-17.87	9.01	19.22	64.60	66.87	71.67	76.73	81.53
Non- Cash Items											
Depreciation	0.02	0.05	2.63	10.88	24.13	29.54	32.04	32.04	32.04	32.04	32.04
Amortization	0.00	0.00	0.00	0.00	0.40	0.40	0.40	0.40	0.40	0.00	0.00
	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
Funds From Operations	0.00	-0.72	-2.72	-7.00	33.54	49.16	97.05	99.31	104.11	108.77	113.57
Founders Capital	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mezzanine Capital	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subordinated Debt Financing	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Senior Debt Financing	0.20	0.40	30.90	99.00	159.00	65.00	30.00	0.00	0.00	0.00	0.00
Working Capital Line	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
Total Sources	2.95	9.68	28.18	97.01	192.54	114.16	127.05	99.31	104.11	108.77	113.57
	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
Uses Of Funds											
Capital Asset Acquisition	0.20	0.40	30.90	99.00	159.00	65.00	30.00	0.00	0.00	0.00	0.00
Organizational Costs	0.50	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt Amortization	0.00	0.00	0.00	1.43	1.43	1.43	56.36	56.36	56.36	56.36	54.93
Working Capital Requirements	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
Total Uses	0.70	0.90	31.40	100.93	160.43	66.43	86.36	56.36	56.36	56.36	54.93
	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
Ending Cash	2.25	11.03	7.81	3.89	36.00	83.73	124.42	167.37	215.12	267.53	326.17
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======

	2001	2002	2003	2004	2005	2006
Begining Cash	326.17	389.45	457.37	584.84	711.42	835.10
Sources Of Funds						
Net Income	86.17	90.82	95.48	97.16	102.52	111.13
Non- Cash Items						
Depreciation	32.04	32.03	31.99	29.42	21.17	7.92
Amortization	0.00	0.00	0.00	0.00	0.00	0.00
	--------	--------	--------	--------	--------	--------
Funds From Operations	118.21	122.85	127.47	126.57	123.69	119.05
Founders Capital	0.00	0.00	0.00	0.00	0.00	0.00
Mezzanine Capital	0.00	0.00	0.00	0.00	0.00	0.00
Subordinated Debt Financing	0.00	0.00	0.00	0.00	0.00	0.00
Senior Debt Financing	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital Line	0.00	0.00	0.00	0.00	0.00	0.00
	--------	--------	--------	--------	--------	--------
Total Sources	118.21	122.85	127.47	126.57	123.69	119.05
	--------	--------	--------	--------	--------	--------
Uses Of Funds						
Capital Asset Acquisition	0.00	0.00	0.00	0.00	0.00	0.00
Organizational Costs	0.00	0.00	0.00	0.00	0.00	0.00
Debt Amortization	54.93	54.93	0.00	0.00	0.00	0.00
Working Capital Requirements	0.00	0.00	0.00	0.00	0.00	0.00
	--------	--------	--------	--------	--------	--------
Total Uses	54.93	54.93	0.00	0.00	0.00	0.00
	--------	--------	--------	--------	--------	--------
Ending Cash	389.45	457.37	584.84	711.42	835.10	954.15
	=======	=======	=======	=======	=======	=======

CD RADIO, INC.
Capital Asset Acquisitions
(in millions)

Capital Asset	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Satellite Construction and Launch Services:											
System I	0.00	0.00	15.00	45.00	45.00	30.00	15.00	0.00	0.00	0.00	0.00
System II	0.00	0.00	15.00	45.00	45.00	30.00	15.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	30.00	90.00	90.00	60.00	30.00	0.00	0.00	0.00	0.00
Launch Insurance	0.00	0.00	0.00	0.00	60.00	0.00	0.00	0.00	0.00	0.00	0.00
Terrestrial Station Network	0.10	0.20	0.20	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00
Ground Uplink Station	0.00	0.00	0.00	2.50	2.50	0.00	0.00	0.00	0.00	0.00	0.00
CD Radio Development	0.10	0.20	0.70	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Contingency	0.00	0.00	0.00	5.00	5.00	5.00	0.00	0.00	0.00	0.00	0.00
Total Capital Costs	0.20	0.40	30.90	99.00	159.00	65.00	30.00	0.00	0.00	0.00	0.00

ASSUMPTIONS:

1	Satellite hardware and launch costs	150.00
2	Satellite purchase schedule:	
	1992	10%
	1993	30%
	1994	30%
	1995	20%
	1996	10%
3	Launch insurance - % of cost	20%

CD RADIO, INC.
Debt Service Schedule
(in millions)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Senior Debt											
Begining Balance	0.00	0.20	0.60	31.50	130.50	289.50	354.50	329.57	274.64	219.71	164.79
Additions	0.20	0.40	30.90	99.00	159.00	65.00	30.00	0.00	0.00	0.00	0.00
Required Principal	0.00	0.00	0.00	0.00	0.00	0.00	54.93	54.93	54.93	54.93	54.93
Additional Principal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
Ending Balance	0.20	0.60	31.50	130.50	289.50	354.50	329.57	274.64	219.71	164.79	109.86
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======
Subordinated Debt											
Begining Balance	0.00	0.00	10.00	10.00	8.57	7.14	5.71	4.29	2.86	1.43	0.00
Additions	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Required Principal	0.00	0.00	0.00	1.43	1.43	1.43	1.43	1.43	1.43	1.43	0.00
Additional Principal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
Ending Balance	0.00	10.00	10.00	8.57	7.14	5.71	4.29	2.86	1.43	0.00	0.00
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======
Working Capital Line											
Begining Balance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Additions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Required Principal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Additional Principal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
Ending Balance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======	=======

Interest Expense											
Senior Debt	0.00	0.03	0.08	4.10	16.97	37.64	46.09	42.84	35.70	28.56	21.42
Subordinated Debt	0.00	0.00	1.70	1.70	1.46	1.21	0.97	0.73	0.49	0.24	0.00
Worling Capital Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.03	1.78	5.80	18.42	38.85	47.06	43.57	36.19	28.81	21.42
Principal Payments											
Senior Debt	0.00	0.00	0.00	0.00	0.00	0.00	54.93	54.93	54.93	54.93	54.93
Subordinated Debt	0.00	0.00	0.00	1.43	1.43	1.43	1.43	1.43	1.43	1.43	0.00
Worling Capital Line	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	1.43	1.43	1.43	56.36	56.36	56.36	56.36	54.93

Assumptions:

1. Interest rate-Senior 13%
   Interest rate-Subordinated 17%

2. Debt term-years 7

3. Senior Debt Terms:
   Interest only 1990 - 1996

	2001	2002	2003	2004	2005	2006
Senior Debt						
Begining Balance	109.86	54.93	0.00	0.00	0.00	0.00
Additions	0.00	0.00	0.00	0.00	0.00	0.00
Required Principal	54.93	54.93	0.00	0.00	0.00	0.00
Additional Principal	0.00	0.00	0.00	0.00	0.00	0.00
Ending Balance	54.93	0.00	0.00	0.00	0.00	0.00
Subordinated Debt						
Begining Balance	0.00	0.00	0.00	0.00	0.00	0.00
Additions	0.00	0.00	0.00	0.00	0.00	0.00
Required Principal	0.00	0.00	0.00	0.00	0.00	0.00
Additional Principal	0.00	0.00	0.00	0.00	0.00	0.00
Ending Balance	0.00	0.00	0.00	0.00	0.00	0.00
Working Capital Line						
Begining Balance	0.00	0.00	0.00	0.00	0.00	0.00
Additions	0.00	0.00	0.00	0.00	0.00	0.00
Required Principal	0.00	0.00	0.00	0.00	0.00	0.00
Additional Principal	0.00	0.00	0.00	0.00	0.00	0.00
Ending Balance	0.00	0.00	0.00	0.00	0.00	0.00

Interest Expense						
Senior Debt	14.28	7.14	0.00	0.00	0.00	0.00
Subordinated Debt	0.00	0.00	0.00	0.00	0.00	0.00
Worling Capital Line	0.00	0.00	0.00	0.00	0.00	0.00
	--------	--------	--------	--------	--------	--------
Total	14.28	7.14	0.00	0.00	0.00	0.00
	=======	=======	=======	=======	=======	=======
Principal Payments						
Senior Debt	54.93	54.93	0.00	0.00	0.00	0.00
Subordinated Debt	0.00	0.00	0.00	0.00	0.00	0.00
Worling Capital Line	0.00	0.00	0.00	0.00	0.00	0.00
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Total	54.93	54.93	0.00	0.00	0.00	0.00
	=======	=======	=======	=======	=======	=======

CD RADIO, INC.
Shedule of Operating Expenses
(in thousands)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Control Center											
Salaries & Wages	0	0	0	0	250	250	250	250	250	250	250
Taxes & Benefits	0	0	0	0	75	75	75	75	75	75	75
Telephone & Utilities	0	0	0	0	100	100	100	100	100	100	100
Information Systems	0	0	0	0	50	50	50	50	50	50	50
In-orbit Insurance	0	0	0	0	1,080	2,160	3,600	3,600	3,600	3,600	3,600
Other	0	0	0	0	50	50	50	50	50	50	50
Total	0	0	0	0	1,605	2,685	4,125	4,125	4,125	4,125	4,125
General & Administrative											
Management fee	0	0	0	0	750	1,000	1,500	1,500	1,500	1,500	1,500
Salaries & Wages	0	150	300	500	720	720	720	720	720	720	720
Taxes & benefits	0	45	90	150	216	216	216	216	216	216	216
Insurance	0	0	50	50	50	50	50	50	50	50	50
Professional fees	0	200	200	200	200	200	200	200	200	200	200
Telephone & Utilities	0	100	100	100	100	100	100	100	100	100	100
Office Expense	0	100	100	100	100	100	100	100	100	100	100
Other	0	100	100	100	100	100	100	100	100	100	100
Total	0	695	940	1,200	2,236	2,486	2,986	2,986	2,986	2,986	2,986

	2001	2002	2003	2004	2005	2006
Control Center						
Salaries & Wages	250	250	250	250	250	250
Taxes & Benefits	75	75	75	75	75	75
Telephone & Utilities	100	100	100	100	100	100
Information Systems	50	50	50	50	50	50
In-orbit Insurance	3,600	3,600	3,600	3,600	3,600	3,600
Other	50	50	50	50	50	50
Total	4,125	4,125	4,125	4,125	4,125	4,125
General & Administrative						
Management fee	1,500	1,500	1,500	1,500	1,500	1,500
Salaries & Wages	720	720	720	720	720	720
Taxes & benefits	216	216	216	216	216	216
Insurance	50	50	50	50	50	50
Professional fees	200	200	200	200	200	200
Telephone & Utilities	100	100	100	100	100	100
Office Expense	100	100	100	100	100	100
Other	100	100	100	100	100	100
Total	2,986	2,986	2,986	2,986	2,986	2,986