

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)
)
Annual Assessment of the Status of) CS Docket No. 97-141
Competition in Markets for the)
Delivery of Video Programming)

FOURTH ANNUAL REPORT

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I. INTRODUCTION

1. This is the Commission's fourth annual report ("*1997 Report*")¹ to Congress submitted pursuant to Section 628(g) of the Communications Act of 1934, as amended ("Communications Act"). Section 628(g) requires the Commission to report annually to Congress on the status of competition in markets for the delivery of video programming.² Congress imposed this annual reporting requirement in the Cable Television Consumer Protection and Competition Act of 1992 ("*1992 Cable Act*")³ as a means of obtaining information on the competitive status of markets for the delivery of video programming.⁴

A. Scope of this Report

2. In this *1997 Report*, we update the information in our previous reports and provide data and information that summarizes the status of competition in markets for the delivery of video programming. The information and analysis provided in this report is based on publicly available data, filings in various Commission rulemaking proceedings, and information submitted by commenters in response to a *Notice of*

¹The Commission's first three reports appear at: *Implementation of Section 19 of the 1992 Cable Act (Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming)*, CS Dkt. No. 94-48, First Report ("*1994 Report*"), 9 FCC Rcd 7442 (1994); *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, CS Dkt. No. 95-61, Second Annual Report ("*1995 Report*"), 11 FCC Rcd 2060 (1996); and *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, CS Dkt. No. 96-133, Third Annual Report ("*1996 Report*"), 12 FCC Rcd 4358 (1997).

²Communications Act of 1934, as amended, § 628(g), 47 U.S.C. § 548(g) (1996) ("Communications Act").

³Pub. L. No. 102-385, 106 Stat. 1460 (1992).

⁴The 1992 Cable Act imposed a regulatory scheme on the cable industry designed to serve as a transitional mechanism until competition develops and consumers have adequate multichannel video programming alternatives. One of the purposes of Title VI of the Communications Act, Cable Communications, is to "promote competition in cable communications and minimize unnecessary regulation that would impose an undue economic burden on cable systems." 47 U.S.C. § 521(g).

Inquiry ("Notice") in this docket.⁵ To the extent that information included in previous reports is still relevant, we do not repeat that information in this report other than in an abbreviated fashion, and provide references to the discussions in prior reports.

3. Throughout this year's report, we provide information regarding the implementation of the Telecommunications Act of 1996 ("1996 Act")⁶ and the effect that its provisions and those of the 1992 Cable Act have had on the status of competition in markets for delivery of video programming. The 1996 Act was intended to establish a "pro-competitive de-regulatory national policy framework" for the telecommunications industry.⁷ Consistent with this philosophy, the 1996 Act extends the pro-competitive provisions of the 1992 Cable Act by adding several provisions that focus on removing barriers to competitive entry and on establishing market conditions that promote competition. Among the 1996 Act's provisions that affect competition in video markets are the provisions that: (a) prohibit restrictions on the use of certain over-the-air reception devices; (b) change the definition of a cable television system; (c) permit cable operators to offer discounted bulk rates in multiple dwelling units; (d) provide for competition in multichannel video programming distribution ("MVPD") "navigation" equipment markets; (e) allow the entry of exempt public utility companies into video markets; (f) eliminate entry barriers for entrepreneurs and small businesses; and (g) establish open video systems ("OVS").⁸ Recent activity brought about by these provisions is discussed in this report.

4. In Section II we examine the cable television industry, existing MVPD and other program distribution technologies, and potential competitors to cable television. Among the MVPD systems or techniques discussed are direct broadcast satellite ("DBS") services and home satellite dishes ("HSDs"), wireless cable systems using frequencies in the multichannel multipoint distribution service ("MMDS") or local multipoint distribution service ("LMDS"), satellite master antenna television ("SMATV") systems and broadcast television service. We also consider several other existing and potential distributors of and distribution technologies for video programming including, the Internet, home video sales and rentals, and interactive video and data services ("IVDS"), local exchange telephone carriers ("LECs"), and electric and gas utilities.

5. In Section III of this report, we examine market structure and competition.⁹ We evaluate horizontal concentration of cable television systems and vertical integration between cable television systems

⁵*Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*, CS Dkt. No. 97-141, Notice of Inquiry, 12 FCC Rcd 7829 (1997). Appendix A provides a list of commenters. At its regular Commission meeting on December 18, 1997, the Commission heard oral presentations regarding competition issues from Decker Anstrom, President and Chief Executive Officer, National Cable Television Association; Gene Kimmelman, Co-Director, Washington Office, Consumers Union; and Matthew Oristano, Chairman and Chief Executive Officer, People's Choice TV Co., and Chairman, Government Relations Committee, Wireless Cable Association International.

⁶Pub. L. 104-104, 110 Stat. 56 (1996).

⁷H.R. Rep. No. 104-458, 104th Cong. 2nd Sess. 1 (1996) ("Conference Report").

⁸*1996 Report*, 12 FCC Rcd at 4364-7 ¶¶ 5-10; *Notice*, 12 FCC Rcd at 7841-7844 ¶ 20.

⁹Appendix H of the *1994 Report* describes methods for assessing the status of competition in markets for the delivery of multichannel video programming. *1994 Report*, 9 FCC Rcd at 7623, App. H.

and programming services. We also discuss competitors serving multiple dwelling unit ("MDU") buildings. We further discuss program access and technological advances. In Section IV, we examine evidence of competitive responses by industry players that are beginning to face competition from other MVPDs. Section V is a discussion of issues relating to federal laws and regulations concerning the emergence of a freely competitive MVPD marketplace. Finally, in Section VI, we report on video description of video programming.¹⁰

B. Summary of Findings and Recommendations

6. A comprehensive review of this nature necessarily entails a detailed examination of an enormous amount of data. The exposition and discussion that follows is intended to serve, among other things, as a useful basis for determining what, if any, regulatory or congressional actions are needed to promote competition in the MVPD marketplace and thereby bring to consumers greater choice and improved service at the lowest possible price.

7. At the broadest level, we note that 87% of MVPD subscribers receive service from their local franchised cable operator. While this represents a slight decrease from last year, it shows the cable industry continues to occupy the dominant position in the MVPD marketplace. Further, cable operators on average increased their rates 8.5% for regulated programming and equipment over the 12-month period from July 1996 to July 1997.

8. The cable industry's large share of the MVPD audience is a cause for concern, in large part, only to the extent it reflects an inability of consumers to switch to some comparable source of video programming. Below we identify and discuss alternative sources of multichannel video programming, as well as regulatory and technological developments that have enhanced, or soon may enhance the competitive significance of alternative providers. In each case, however, we note various factors that place the alternative provider at a competitive disadvantage. For example, legal and technical constraints limit the ability of direct-to-home satellite providers to carry the signals of local broadcasters that are a staple of a cable operator's programming fare. Likewise, pending the deployment of digital and compression technology, a wireless cable operator is limited to a total of 33 channels, while the capacity of cable systems is such that almost 60% of cable subscribers are served by a cable operator that has a channel capacity of at least 54 channels.

9. As discussed below, the Commission recently has taken a series of steps to minimize and eliminate obstacles to competition. On December 18, 1997, we adopted a *Notice of Proposed Rulemaking* that seeks to ensure that MVPDs are not foreclosed from obtaining, and offering to their subscribers, cable programming that is distributed by programmers that are vertically integrated with cable operators. We have adopted and enforced rules preempting governmental and private restrictions that unreasonably interfere with a consumer's right to install the dishes and other equipment necessary to receive programming services from direct-to-home satellite, wireless cable, and other alternatives to franchised cable. In October 1997, we adopted new rules that make it easier for the owners and residents of a multiple dwelling unit to change providers, by providing certainty to alternative MVPDs regarding their rights to use the internal wiring installed in the building by the incumbent provider. The Commission also has increased the amount of spectrum available for wireless uses, and eliminated restrictions on the use of that spectrum, for the benefit of wireless providers. The Commission also has encouraged the development of digital television which may provide new competition.

¹⁰47 U.S.C. § 613(f).

10. Initiatives such as these are critical to the development of a competitive marketplace that, one day, will render superfluous cable rate regulation and other rules. In Section IV, below, we note the significant steps that cable operators have taken when subject to head-to-head competition, in the relatively few areas where such competition has developed. In such cases, cable operators have responded quickly with a mix of increased programming choices, lower rates, and improved customer service. The exact combination of these responses has varied among operators, as it should in a competitive market where consumer demand -- not monopolist strategies or government regulations -- dictates the supplier's response. We will continue to strive to make a competitive marketplace a reality for all consumers.

11. The following paragraphs contain a more detailed summary of the findings in this *1997 Report*:

OVERVIEW OF VIDEO PROGRAMMING DISTRIBUTION MARKET:

Geographic and Product Markets: For purposes of analysis, competition in the delivery of video programming involves local markets in which consumers can choose among particular multichannel or other video programming distribution services. The products that are sold in these markets consist of bundles of attributes -- antenna service, basic or optional tiers or packages of video programming channels, premium per-channel charge services, pay-per-view channels, and others. Providers of these services increasingly will participate in a broader telecommunications market that includes both video and nonvideo products as new communications services are added to their offerings. National, regional, and local markets are also involved in the video programming purchasing activities of these video providers.

MVPD Market Overview: A total of 73.6 million households subscribed to multichannel video programming services as of June 1997, up 2.8% over the 71.6 million households subscribing to MVPDs in September 1996 reported in the *1996 Report*. This subscriber growth accompanied a 2.9 percentage point increase in multichannel video programming's penetration of television households to 75.9% in June 1997. During this period, the number of cable subscribers continued to grow, reaching 64.2 million as of June 1997, up 1% over the 63.5 million cable subscribers in September 1996. Since the *1996 Report*, cable's share of total MVPD subscribers, however, continued to decrease from 89% of all multichannel video subscribers as of September 1996 to 87% of all multichannel video subscribers as of June 1997. Conversely, noncable subscribers continued to grow, constituting 13% of all multichannel video subscribers as of June 1997, up from 11% last year. The total number of noncable MVPD subscribers grew from 8.1 million as of September 1996 to 9.5 million as of June 1997, an increase of almost 20% since the *1996 Report*.

Local markets for the delivery of video programming generally remain highly concentrated and are still characterized by some barriers to both entry and expansion by competing distributors. DBS service is widely available and constitutes the most significant alternative to cable television. The digital technology employed by DBS provides high channel capacity and high picture quality. However, DBS service is different from cable service in a number of respects, including: (1) local broadcast signals are not available by satellite; (2) up front equipment and installation costs; and (3) the need to purchase additional equipment to receive service on additional television sets. Competitive overbuilding by franchised cable systems remains minimal, but is increasing and appears to improve service and/or pricing where it exists. MVPDs using other distribution technologies have not posted subscribership increases comparable to DBS increases, but are in the process of testing digital technology that has the potential to improve significantly the competitiveness of their services.

MARKET PARTICIPANTS

Cable Systems: Incumbent franchised cable systems remain the primary distributors of multichannel video programming. A cable operator is typically franchised by a unit of local or state government to install and maintain cable facilities in public rights-of-way for the purpose of offering broadcast and satellite services throughout a community. Since the 1996 *Report*, the cable television industry has continued to grow in terms of subscribership (up to 64.2 million subscribers as of June 1997, a 1% increase from September 1996), channel capacity (average channel capacity increased 13.6% to 58.6 channels by June 1997), programming services distributed (17% increase in the distribution of national cable programming services), revenues (12.2% increase between September 1996 and June 1997), audience ratings (8.6% increase between September 1996 and June 1997 to an average 38 share for cable programming services), and expenditures on programming (an approximate 10.6% increase). Although cable subscribership continued to increase in absolute terms, its share of overall MVPD subscribership decreased from 89% to 87%, continuing the gradual decline in market share noted in the 1996 *Report*.

Rates for cable services have increased over the last year. A Commission survey of cable industry prices indicates that the average monthly rate for programming services offered on basic and cable programming service ("CPS") tiers and equipment charges increased from \$26.57 on July 1, 1996, to \$28.83 on July 1, 1997, an increase of 8.5%. Cable operators participating in the survey state that the increase in cable rates is largely attributable to inflation, increased programming costs, channel additions, and system upgrades. Consumers Union and Consumers Federation of America filed a petition asking the Commission to freeze current rates for all regulated cable services while it investigates why rates are increasing so rapidly and considers changes to its cable rate regulation formula.¹¹ The petitioners argue that these rate increases are due, in part, to the greater consolidation of the cable industry and other developments that have increased concentration in the cable industry and undercut competition in the video marketplace.

Direct-to-Home ("DTH") Satellite Service (DBS and HSD): Video service is available from high power DBS satellites that transmit signals to small DBS dish antennas installed at subscribers' premises, and from medium and low power satellites requiring larger satellite dish antennas. It is estimated that there are in excess of 5.1 million DBS and medium power (Primestar) subscribers and between 3.8 and 4.0 million HSD users, although only about 2.1 million HSD subscribers actually purchase programming packages. DIRECTV and Primestar, which have the largest number of DBS subscribers, are again among the 10 largest providers of multichannel video programming service. Although the DBS share of the video market is continuing to expand, there are indications that its future growth may be slower than previously expected. The sale of large (HSD) dishes has declined as small (DBS) dish services have become more readily available. DBS service is available nationwide (although some households cannot receive it due to physical obstacles), employs an advanced digital transmission technology, has some unique programming distribution rights, and is not subject to a variety of regulatory burdens imposed on franchised cable operators (e.g., franchise fees). DBS service includes a significant number of pay-per-view programming options and is particularly competitive for high

¹¹*Implementation of Sections of the Cable Act of 1992, Rate Regulation, Horizontal and Vertical Ownership Limits, Developments of Competition and Diversity of Video Programming Distribution and Carriage*, MM Dkt. Nos. 92-264, 92-265, 92-266, Petition to Update Cable Television Regulations and Freeze Existing Cable Television Rates, filed Sept. 23, 1997, by Consumers Union and Consumer Federation of America ("Consumers Union Petition"). Many of the issues discussed in the petition were reiterated by Gene Kimmelman representing Consumers Union at the December 18, 1997, Commission meeting.

revenue producing cable subscribers. DTH satellite service, while it has certain advantages over traditional cable service, is not, by itself, a direct substitute for cable service given the continued popularity of broadcast television programming and the absence of local broadcast signals from satellite distribution. DBS service more closely replicates cable service in areas where access to local broadcast signals is possible through over-the-air antenna reception. DTH subscribership varies from 23.6% in Montana to 2.3% in New Jersey, with a share of approximately 9.8% of national MVPD subscribership.

Wireless Cable Systems: As of June 1997, approximately 252 MMDS or wireless cable systems were in operation, mainly in urban areas. An MMDS operator transmits signals to microwave antennas installed at subscribers' residences. To function properly, wireless cable requires a clear line of sight from the transmitter to the point of reception and thus is more difficult to operate in areas where terrain, trees, or buildings block reception. Since September 1996, the wireless cable industry suffered an aggregate loss of 8.8% of its subscribers. In some markets, wireless cable providers intentionally stopped marketing their analog service in anticipation of the near term availability of digital transmission systems. Digital service, after a number of delays, has now been introduced in a number of markets and appears to produce dramatically better picture quality and increased numbers of channels. As of June 1997, wireless cable had a 1.5% share of national MVPD subscribership.

SMATV Systems: SMATV systems use some of the same technology as cable systems, but do not use public rights-of-way, and focus principally on serving subscribers living in MDUs. SMATV subscribership increased 10.7% since the last report. Many SMATV operators are upgrading facilities, implementing digital transmission and microwave headend technologies, and expanding service offerings to include DBS programming, Internet access, telephone service, and security services. SMATV systems had a 1.6% share of the national MVPD subscribership as of June 1997.

Telephone Companies: The 1996 Act significantly expanded the opportunities for local telephone companies to compete in video programming distribution markets. Telephone company (local exchange carrier or LEC) entry into this business, however, has proceeded sporadically and has been highly dependent on the business strategies of the individual companies involved. Virtually none of the video delivery by LECs at this time involves facilities that are technically integrated with existing telephone plant or that are used to distribute both video and telephone traffic. Some LECs (Ameritech, BellSouth, GTE, and SNET) have continued to expand franchised cable operations within their telephone service areas or to acquire in-region MMDS systems. Others (US West, Bell Atlantic, and SBC) have minimized or abandoned further activities in multichannel video programming within their regions. Tele-TV and Americast, two joint ventures organized by LECs to provide original video programming and packaging, have significantly scaled back their operations.

Open Video Systems: In the 1996 Act, Congress established a new framework for the delivery of video programming -- the open video system ("OVS"). Under these rules, a LEC or other entrant may provide in-region distribution of video programming to subscribers, although the OVS operator must provide non-discriminatory access to unaffiliated programmers on a portion of its channel capacity. The Commission has certified Bell Atlantic to operate an OVS system in Dover Township, New Jersey. The Commission also has certified five other OVS systems in eight areas.

Video Cassette and DVD Sales and Rentals: Video cassettes provide feature films similar to those distributed by cable operators on premium channels and others involved in the distribution of video programming. The most recent available data (for 1996) show that 88% of U.S. television households have

a video cassette recorder ("VCR"). The U.S. video cassette rental and sales market is estimated to receive \$15.6 billion in annual revenues, an amount that significantly exceeds the combined total spending of \$7.2 billion in 1996 for similar products distributed by cable television, satellite, and other MVPD pay television services. The introduction of Digital Versatile Discs ("DVD") and Disc Players, which became available to the public in 1997, could provide a significant alternative to VCRs and cassettes and to premium and pay-per-view channels with similar content distributed by MVPDs.

Electric Utilities: Section 103 of the 1996 Act removed regulatory impediments to the entry of "registered" public utility holding companies, including in particular providers of electric power, into telecommunications and video markets. Over the last year, a number of publicly- and investor-owned utilities have announced plans or have commenced ventures involving multichannel video programming distribution. Utilities, however, are not yet actual participants in the market for the distribution of video programming.

Internet Video: Video programming may be distributed over the Internet or other data channels for viewing on computer terminals. This is accomplished by using video compression technologies and through downloading of the video data for later playback or through video "streaming." Due to bandwidth and other limitations, this method of video distribution does not yet produce programming that is comparable in length, quality, or convenience to broadcast video. Before Internet distribution of video becomes competitive in the video distribution marketplace, significant improvement must be made in this form of delivery.

Broadcast Television: Broadcast television is available to the public both through direct reception and through MVPD distribution and continues to be the public's primary source of video programming, regardless of transmission medium. The four major television broadcast networks still account for a 59% share of prime time television viewing for all television households. The number of television broadcast stations continued to increase (to 1561 in 1997 from 1550 in 1996). Television broadcasting remains a significant alternative to other means of video programming distribution for viewers, programmers and advertisers. However, viewership of broadcast station programming continued to gradually decline as viewership of cable and satellite network programming increased. Approximately 23% of all television households receive television programming entirely from over-the-air television broadcast reception. In the years ahead, fundamental changes in the nature of broadcast television will be taking place. The Commission has adopted rules for implementation of digital television ("DTV") and broadcasters have continued testing DTV as they plan for the use of DTV spectrum. Under the Commission's rules for DTV, digital encoding and transmission technology will permit stations to broadcast: one or perhaps two High Definition Television ("HDTV") signals; multiple streams of Standard Definition Television ("SDTV") signals; or a combination of the two. The first DTV stations will begin broadcasting in the top ten markets by November 1998, with the digital transition currently scheduled to be completed by 2006.

LOCAL, REGIONAL, AND NATIONAL HORIZONTAL MARKET DEVELOPMENTS

Multiple Dwelling Unit Buildings as a Separate Market: Video distribution competition within and for multiple dwelling unit buildings ("MDUs") appears to be developing as a distinct market separate from neighboring areas. Competitors for this market face different economics, technical applications, and regulatory issues.

Local Market Competition for Video Subscribers: Local markets for the delivery of video programming generally remain highly concentrated and continue to be characterized by some barriers to entry and expansion by potential competitors to incumbent cable systems. Competitive overbuilding by franchised cable operators remains minimal but is increasing (particularly by LECs) and appears, to varying degrees, to improve service and/or pricing where it exists. It remains difficult to determine whether or when competition from closely substitutable multichannel video programming services will affect currently non-competitive markets. DBS service is available in almost all areas and constitutes the most significant alternative to cable television. Its major advantage is its ability to offer service which is significantly different from cable service with respect to signal quality and programming options. Its major disadvantages, however, include its inability to provide local broadcast programming and the expense of its equipment and installation. In addition, its current advantage in channel capacity may be transitory once cable systems deploy digital distribution technology. MVPDs using other distribution technologies have not posted subscribership increases comparable to DBS subscribership increases, but are in the process of testing digital technology that has the potential to improve significantly the competitiveness of their services. Consequently, it remains difficult to predict the extent to which competition from MVPDs using non-cable delivery technologies will constrain cable systems' ability to exercise market power in the future.

Local Interservice Competition; Telephone Companies Offering Video and Cable Operators Offering Telephony: The 1996 Act repealed a statutory prohibition against an entity holding attributable interests in a cable system and a LEC with overlapping service areas. At the time of the 1996 Act's passage, members of the local telephone industry indicated that they would begin to compete in video delivery markets, and cable television operators indicated that they would begin providing local telephone exchange service. The expectation was that there would be a technological convergence that would permit use of the same facilities for provision of the two types of service. This technological convergence has yet to take place. Almost all of the video service being provided by LECs is being provided using conventional cable television technology or wireless cable operations that stand alone from the provider's telephone facilities. The provision of telephone service by cable firms over integrated facilities remains primarily at an experimental stage. The one area where many cable operators appear poised to compete head-to-head with local telephone companies is in the provision of Internet access. Technology in this area appears to be rapidly advancing and service is being deployed on a commercial basis in a large number of cable systems.

Regional Clustering of Cable Television Operations: A trend toward regional clustering of cable television operations continued during the course of the last year. As a result, 139 cable systems serve in the aggregate over half of all cable subscribers. The consolidation of systems into regional clusters appears to have a number of technical and economic advantages for system operators. This trend also has marketing advantages for system operators and should accommodate their entry into broader telecommunications markets where other competitors are providing service throughout or across large regional areas. Regulatory controls attach to cable systems on a political subdivision basis, however, resulting in the application of non-uniform regulations at the local level throughout a larger region.

Cable and MVPD Concentration at the National Level: Ownership patterns among cable multiple system operators ("MSOs") at the national level also have changed, in part because of the regional clustering phenomenon. Whether concentration at the national level is viewed as having decreased or increased is dependent on an analysis of certain transactions that have been announced but have not yet been consummated. In particular, TCI, the largest MSO, has announced a series of transactions whereby certain systems it currently owns will be owned or managed by other operators with a more significant regional presence in the markets where these systems are located. These transactions have been announced as system divestitures, although they will result in continuing financial or ownership relations between TCI and the entities acquiring management or control over the systems involved. Whether these transactions should ultimately be viewed as increasing the size of TCI depends in part on the specific details of the transactions involved which are not now before the Commission and that may not have been finalized. If the arrangements are such as to create attributable interests, the result could be a significant increase in TCI's attributable share of the national market and in the indices that have been used to measure concentration at the national level.

PROGRAMMING AND VERTICAL OWNERSHIP MARKET DEVELOPMENTS

The proportion of national programming services that are vertically integrated with cable operators declined slightly from last year's total of 46% to 40% this year. Eight of the 16 national programming services launched since the *1996 Report* have been vertically integrated with an MSO. In local and regional markets, system operators are increasingly distributing local non-broadcast news channels, some of which are programmed by affiliates of the operator and a significant number of which are programmed by non-affiliated local television stations. The integration of regional sports programming with system ownership has taken place through the merger of eight TCI-affiliated Fox/Liberty regional sports networks with seven Cablevision-affiliated SportsChannel regional sports services.

CASE STUDIES OF COMPETITIVE RESPONSES

Competitive Response in Markets with Wireline Competition: Although there have not been a large number of instances in the past year, several new wireline providers have entered incumbent cable operators' markets. A review of a limited number of markets where an incumbent cable operator faces competition from one or more MVPDs also using wired delivery indicates that the incumbent operator is responding by offering new services and new products, providing better customer service and lowering prices.

CHANGES IN TECHNOLOGY

Technological Change: Advances in and development of digital technology will permit all distributors of video programming to increase the delivered quantity of service. Digital technology increases the number of programming channels that may be communicated over a given amount of bandwidth or spectrum space. MVPDs and broadcasters continue to pursue improved digital compression ratios and deployment of digital technology.

REGULATORY ACTIVITIES AND ISSUES

Over-the-air Reception Devices: Video delivery services that use the radio spectrum to deliver service, such as broadcast, DBS, and MMDS services, typically require consumers to install and make use of

external antennas and other reception equipment. Pursuant to Section 207 of the 1996 Act, the Commission has issued regulations to prohibit restrictions that impair a viewer's ability to receive video programming services through devices designed for over-the-air reception of television broadcast signals, MMDS, or DBS services. This action gives more control and choice to consumers to select alternative sources of video programming without regard to certain restrictions imposed by local governments or community associations. The Commission has preempted a number of such restrictions in individual cases. Petitions for reconsideration of the rules are pending, as is a further proceeding addressing the applicability of Section 207 to antenna installations on property in which the viewer does not have an ownership interest and exclusive use or control, such as rental apartments. Depending on the outcome of those proceedings, additional antenna placement rights may be necessary if competition for individual MDU subscribers is to take place on a broader basis.

Inside Wiring: The ability of video service providers to compete to provide service to MDUs or to serve the residents of MDUs often is dependent on who owns or controls the inside wiring in the buildings. In October 1997, the Commission adopted inside wiring rules designed to promote competition for and within MDUs. The rules provide certainty for alternative video programming providers and MDU owners regarding whether the existing inside wiring will be available for use when the incumbent's service is terminated. The rules adopted were limited in scope, applying only where the incumbent MVPD no longer has a legally enforceable right to remain on the premises. If the Commission had more explicit authority to address wiring transfer and compensation issues, competition for and within a building, could be enhanced.

Pole Attachments: Wireline video and telecommunications competition is heavily dependent on the ability of market participants to obtain access to utility poles, conduits, and rights of way at reasonable rates. The 1996 Act directed the Commission, within two years, to issue new pole attachment and conduit rate formulas. A proceeding is in progress to undertake the necessary review of these rules. The pole attachment rate regulation function is one that is shared between the Commission and state and local governments, with state and local governments having priority in those situations where they choose to regulate. The initial congressional decision to exempt cooperatives and government entities appears to have been based, at least in part, on the implicit assumption that these entities were functioning not just as businesses providing utility pole and conduit space but as public representatives performing a regulatory or quasi regulatory function. Commenters suggest that when cooperatives and government entities are themselves engaged in the provision of communications services a conflict of interest may result such that the rates charged to competitors may no longer be cost based and that competition may accordingly be distorted.

Program Access: The 1992 Cable Act contains provisions that are intended to foster the development of competition to traditional cable systems by regulating the access of competing MVPDs have to vertically integrated, satellite distributed cable programming services. As the Commission has consistently noted, exclusive arrangements can be used to deter entry and inhibit competition from other MVPDs in markets for the delivery of multichannel video programming. However, exclusive arrangements can also produce efficiency benefits for the parties involved, and may increase competition through product differentiation, which can produce increased choice for consumers in programming and distribution markets. The Commission has commenced a rulemaking proceeding to seek comment on a number of possible mechanisms for improving the effectiveness of the existing rules including: (1) establishing specific time deadlines for resolving program access cases; (2) improving the discovery process (e.g., some cable competitors propose that vertically-

integrated programmers be required to disclose what they actually charge cable operators;¹² (3) including monetary damages among the available enforcement tools to discourage program access violations; (4) possibly applying the program access rules to certain situations in which programming is moved from satellite delivery to terrestrial delivery; and (5) revising the manner in which the rules apply to program buying cooperatives. It is not clear to what extent, if any, the provisions of the 1992 Cable Act cover programming distributed by means other than satellite or by programmers unaffiliated with MSOs. This is an issue of concern for a number of MVPDs competing with incumbent cable operators.

Cable Horizontal Ownership Regulation: The 1992 Act directed the Commission to set limits on the number of cable subscribers that could be reached by an individual MSO. In October 1993, the Commission adopted rules providing that, with limited exceptions, no MSO could pass more than 30% of the households passed by cable nationwide. The statutory provision involved, however, was found to be unconstitutional by a United States District Court and the Commission stayed the enforcement of its rules pending further judicial review. The appeal of the statutory provision has been consolidated with an appeal of the rules adopted by the Commission and the Court has indicated that it would not proceed with resolution of the matter prior to the Commission acting on pending petitions for reconsideration of the rules. As a result, the Commission will be required to complete its review of the rules while the issue of the constitutionality of the underlying statute remain unresolved.

Mandatory Carriage of Local Broadcast Station Signals: Relations between local broadcast stations and MVPDs concerning carriage of broadcast programming are mediated in part by the mandatory broadcast signal carriage rules that were required by the 1992 Act and by related provisions in the 1996 Act regarding open video systems. In addition, the Commission was required to initiate a proceeding at the time it prescribed standards for advanced television, now referred to as digital television ("DTV"), to establish any changes in the signal carriage requirements of cable television systems necessary to ensure the carriage of broadcast signals of local commercial television stations that have been changed to conform with such modified standards. In the context of adopting digital television standards, the Commission sought comment on relevant must carry rules or policies that might be needed both during the transition to DTV and once DTV has replaced the current analog system. The Commission has indicated that it intends to seek further comment on this issue.

Television Broadcast Station Tower Siting Regulation: The Commission has adopted an aggressive schedule for implementation of broadcast DTV. Digital television may provide a means for broadcast television stations to become more competitive in the market for delivery of video programming by permitting multiplexed services. In order to provide digital television service, broadcasters will need to modify their facilities, and, in many cases, to construct new transmitters and new towers. Of particular concern to broadcasters is the effect of local and state regulation on their ability to upgrade existing towers or to construct new towers in a timely manner. The Commission has initiated a proceeding to seek comment on whether any action is necessary in this regard to permit a rapid roll-out of DTV.

DBS Public Service Obligations: Competitive relationships in markets for the distribution of video programming are dependent in part on how different regulatory requirements are applied to the various market participants. The 1992 Act directed the Commission to initiate a rulemaking to impose public interest or other requirements for providing video programming on DBS service providers and mandated that DBS providers reserve between 4% and 7% of their channel capacity exclusively for noncommercial programming of an

¹²Testimony of Matthew Oristano, on behalf of WCAI, at the Dec. 18, 1997, Commission meeting.

educational or informational nature. Such a proceeding was initiated. However, the statutory requirement was found to be unconstitutional. That ruling has subsequently been reversed. The Commission has resumed its rulemaking and has sought updated comments relating to this requirement.

Copyright: On August 1, 1997, the Copyright Office released a report on licensing regimes for broadcast signals. The report contains a number of legislative suggestions, including harmonization of cable and satellite carrier licenses (except to the extent that technological differences or differences in the regulatory burdens justify different copyright treatment); adjustment of license fees to reflect fair market value; and limiting or eliminating special provisions relating to small cable systems. The Copyright Office also recommends that the compulsory license for satellite retransmission be extended and that extensive changes be made to modify the "unserved household restriction." Changes in compulsory copyright license rates, structure, and coverage will have consequences for the competitive relationships among MVPDs. At present there is no mechanism for systematic coordination of copyright and communications policies and regulations. Under the Copyright Act, satellite compulsory copyright license fees for retransmission of broadcast signals are to be set at "fair market value," considering the competitive distribution environment and the economic impact of the fees on copyright owners, satellite carriers, and the continued availability of retransmissions to the public. On October 27, 1997, the Librarian of Congress, whose responsibility it is to adjust the fee, issued an order setting a rate of 27 cents per subscriber for satellite retransmission of distant superstation and broadcast network signals, an increase of 21 cents over the prior rate of six cents per subscriber. Legislation has been introduced that would delay the new fee structure pending a study of whether it would be an impediment to competition. DBS operators' current lack of local broadcast programming impairs DBS services' competitiveness with cable service. A consideration of satellite services' carriage of local or broadcast network programming would include a balance of the possibility of private negotiation for program rights, the scope of any compulsory satellite license or other copyright limitations, the scope of any must-carry or other carriage obligations, and the extent of statutory parity between cable and DBS. In considering possible changes in copyright, existing differences between the copyright treatment of cable transmissions and of satellite retransmissions of broadcast signals should be removed where possible so that the compulsory licenses do not affect the competitive balance between the satellite carrier and cable industries.

Navigation Devices: Navigation devices are television set-top boxes and other equipment that consumers use to access video programming. Section 304 of the 1996 Act requires the Commission, in consultation with appropriate industry standard-setting organizations, to adopt rules to assure the commercial availability of navigation devices from manufacturers, retailers and other vendors not affiliated with any MVPDs. The rules, which will expire once the Commission determines that a competitive market for navigation devices has developed, may not jeopardize the security of video services or impede a video provider's ability to prevent theft of service. A proceeding is in progress to consider rules to implement this provision.

Video Description: Video description is an aural description of a program's key visual elements that is inserted during natural pauses in program dialogue for the benefit of viewers with visual disabilities. It generally describes actions that are not otherwise reflected in the dialogue, such as the movement of a person in a scene. The 1996 Act required the Commission to report to Congress on appropriate methods and schedules for phasing video description into the marketplace and other technical and legal issues related to the widespread deployment of video description. On July 29, 1996, the Commission submitted to Congress its first report on

video description pursuant to this requirement.¹³ In this proceeding, we requested information regarding video description to permit us to provide Congress with additional findings. The most widespread video description technology uses the second audio programming ("SAP") channel, a subcarrier that allows each video programming distributor to transmit a second soundtrack. It appears that economic barriers, technical limitations, and unresolved legal issues continue to limit the availability of the service at this time. The costs of providing video description are still quite high, significantly higher than those associated with closed captioning, and video description must compete with Spanish language audio tracks for use of limited SAP channel capacity. Continued public funding could foster the development of video description services to the point where widespread implementation of video description could become feasible, and could ultimately create a commercial market for video description. The advances of digital technology may allow the development and expansion of video description to occur more quickly than occurred in the case of closed captioning.

II. COMPETITORS IN MARKETS FOR THE DELIVERY OF VIDEO PROGRAMMING

A. Cable Industry

12. This section addresses the performance of franchised cable system operators¹⁴ in three areas: (1) general performance -- both the quantitative and qualitative measures of services provided, subscriber levels, and viewership; (2) financial performance -- revenue and cash flow status; and (3) capital acquisition and disposition -- the amount of funds raised and used to improve existing physical plant and acquire new systems. In addition, this section discusses other performance indicators, including system transactions, cable overbuilds,¹⁵ stock prices, rates charged by cable operators, and new services such as digital video services, cable data access, and cable telephony.

1. General Performance

13. Since our last report, the cable industry has grown in several ways including subscribership, homes passed, penetration, premium subscriptions, viewership, and channel capacity.¹⁶ In addition, during all

¹³*Closed Captioning and Video Description of Video Programming, Implementation of Section 305 of the Telecommunications Act of 1996, Video Programming Accessibility*, MM Dkt. No. 95-176, Report, 11 FCC Rcd 19214 (1996).

¹⁴A franchise is defined as an authorization supplied by a federal, state, or local government entity to own or construct a cable system in a specific area. Communications Act § 602(9), 602(10), 47 U.S.C. § 522(9), 522(10). A cable system operator is defined as "any person or group of persons (A) who provides cable service over a cable system, and directly or through one or more affiliates owns a significant interest in such cable system; or (B) who otherwise controls or is responsible for, through any arrangement, the management and operation of such a cable system." § 602(5), 47 C.F.R. § 76.5(cc).

¹⁵*1995 Report*, 11 FCC Rcd at 2075 ¶ 36. An "overbuild" occurs when two or more wireline cable television systems directly compete for subscribers in a local video programming delivery market.

¹⁶*See* App. B, Tbls. B-1 and B-2, Nielsen Media Research, Nielsen Television Index/Monitor Plus, 1997, and Paul Kagan Assocs., Inc., *Channel Capacity Projections By Technology*, Marketing New Media, Sept. 16, 1996, at (continued...)

of 1996 and the first half of 1997, the industry began to expand its service offerings to customers in certain areas to include digital video service, cable modems, and cable telephony.¹⁷

14. *Cable's Capacity to Serve Television Households.* The number of U.S. homes with at least one television set grew from 95.9 million at the end of 1995 to 97 million at the end of 1996, an increase of 1.1%, with no change as of the end of June 1997.¹⁸ The number of homes capable of receiving cable programming on those television sets ("homes passed") increased from 92.7 million at the end of 1995 to 93.7 million at the end of 1996, and 94.2 million by the end of June 1997.¹⁹ This represents about a 1.1% increase between the end of 1995 and the end of 1996.²⁰ The proportion of television homes passed by cable decreased slightly to 96.6% from January to December 1996, but grew to 97.1% between January and June 1997.²¹ The number of homes subscribing to cable has been increasing since December 1995, rising to 65.5% of all television households by the end of 1996, and to 66.2% of television households by the end of June 1997.²²

15. *Subscribership and Capacity Usage.* Cable subscribership grew from 62.1 million subscribers at the end of 1995 to 63.5 million subscribers at the end of 1996, an increase of 2.3%,²³ and to an estimated 64.2 million subscribers at the end of the first half of 1997, a six month increase of about 1%.²⁴ Cable penetration (the proportion of homes passed that actually subscribe) also grew, increasing from 67% at the end of 1995 to 67.8% at the end of 1996, and 68.2% penetration at the end of the first half of 1997.²⁵ The number of homes subscribing to premium cable services increased by 5.7% in 1996 to 31.5 million homes from 29.8 million homes at the end of 1995, and the number of premium services to which homes are subscribing (known as "premium units") increased 5.6%, with 54.5 million premium units subscribed to by the end of 1996, and an estimated 57.2 million units subscribed to by year's end 1997, another 5% increase.²⁶

¹⁶(...continued)

1.

¹⁷See paras. 47 and 51 *infra*.

¹⁸See App. B, Tbl. B-1. A.C. Nielsen reports data on television households as of the beginning of the broadcast television season in September every year.

¹⁹*Id.*

²⁰*Id.*

²¹*Id.*

²²*Id.*

²³*Id.*

²⁴*Id.*

²⁵*Id.*

²⁶*Id.*, See Tbl. B-2.

16. *System Statistics.* Average channel capacity for cable systems has continued to increase. In October 1996, cable systems with a capacity of 30 or more channels accounted for 77.1% of all cable systems, or 8,134 systems, and 83.9% of all cable systems, or 8,260 systems in October 1997.²⁷ The percentage of systems with channel capacities of 54 channels or more accounted for 16.4% of all cable systems in October 1996, or 1,724 systems, and 19% of all cable systems or 1,886 systems in October 1997.²⁸ The average cable system channel capacity grew from about 47 channels at the end of 1995 to approximately 53 channels at the end of 1996, an increase of 12.7%.²⁹

17. In October 1996, the number of subscribers served by systems with capacities of 30 channels or more grew to 98.2% of subscribers.³⁰ In October 1997, the number of subscribers served by systems with capacities of 30 channels or more remained at 98.2% of subscribers.³¹ The number of subscribers served by systems with capacities of 54 or more channels increased 6.4% between the beginning of October 1996 and the beginning of October 1997, from 55.3% of subscribers at the beginning of October 1996 to 58.4% of subscribers at the beginning of October 1997, or by 2.15 million subscribers.³²

18. *Viewership.* Over the past decade, non-premium cable³³ viewership has grown significantly, while viewership of broadcast television stations has steadily declined. The 24-hour a day, 7-day a week audience of all non-premium cable programming increased from an average 11.5 share³⁴ of television viewing hours in the 1987-1988 broadcast year to an average 36.25 share of television viewing hours in the 1996-1997

²⁷See App. B, Tbl. B-3. Use of October to October data is consistent with our *1996 Report*, and is the method used by Warren Publishing, Inc., to report system statistics.

²⁸*Id.*

²⁹Paul Kagan Assocs., Inc., *Channel Capacity Projections By Technology*, Marketing New Media, Sept. 16, 1996, at 1. Paul Kagan Associates began reporting a "weighted" average channel capacity for 1996 and beyond in their Aug. 31, 1997 issue of Cable TV Programming. NCTA uses these figures for cable channel capacity. Since there is no corresponding "weighted" 1995 figure, we use the unweighted capacity here to show a 1995-1996 increase. The weighted average channel capacity for the year-end 1996 was 68 channels. See Paul Kagan Assocs., Inc., *Weighted Cable Analog Channel Capacity Model*, Cable TV Programming, Aug. 31, 1997, at 1.

³⁰See App. B, Tbl. B-4.

³¹*Id.* The number of systems not reporting or not available for categorization increased almost 30% between October 1996 and October 1997.

³²*Id.*

³³The Nielsen Television Index reports non-premium cable viewership as "Cable Origination" viewing shares, and premium cable viewership as "Pay" shares. According to Nielsen, Cable Origination includes the basic cable tier and the cable programming service ("CPS") tier, also known as extended basic, and pay-per-view (defined as payment on a per-program basis). Nielsen separately reports "Pay" viewing shares as only premium tier (defined as payment on a per-channel basis for networks, such as HBO, Showtime).

³⁴A share is the percent of all households using television during the time period that are viewing the specified station(s) or network(s). The sum of reported audience shares exceeds 100% due to multiple set viewing.

season.³⁵ Over the same period, the 24-hour a day, 7-day a week audience of the broadcast television stations, whether delivered over the air or by an MVPD, declined from an average 87.7 share of television viewing hours in the 1987-1988 season to an average 66.5 share of television viewing hours in the 1996-1997 broadcast season.³⁶ The viewing shares of the 24-hour a day, 7-day a week audience of premium channels³⁷ has not changed over the last decade, with a average 6.92 share in 1987-1988 and 1996-1997.³⁸

19. *Networks.* The number of basic cable³⁹ networks increased from 104 to 126, 21.2%, between 1995 and 1996.⁴⁰ In the same period, the number of premium and pay-per-view⁴¹ networks decreased. The number of premium networks decreased by three channels, and the number of pay-per-view networks decreased by one channel.⁴² This fluctuation is considered normal by industry representatives, and is not assumed to be directly attributable to any particular event.⁴³

³⁵Nielsen Media Research, Nielsen Television Index/Monitor Plus, 1997. Shares reported here are from the end of September through the beginning of the following September. Viewing hours are Monday through Sunday, 24 hours each day. Effective 1991, TBS' classification changed from independent station (part of the combined broadcast networks category) to cable basic service.

³⁶*Id.*

³⁷Premium service includes satellite delivered cable programming channels available for an additional monthly per network fee.

³⁸Nielsen Media Research, Nielsen Television Index/Monitor Plus, 1997.

³⁹We refer to all cable programming networks offered as a part of program packages or tiers as "basic cable networks." The primary level of cable television service is commonly referred to as "basic service" and must be taken by all subscribers. The content of basic service varies widely among cable systems but, pursuant to the Communications Act, must include all local television signals and public, governmental and educational access channels, and at the discretion of the cable operator, may include satellite delivered cable programming channels carried on the system. One or more expanded tiers of service known as CPS tiers for purposes of rate regulation and often known as expanded basic, may also be offered to subscribers. These expanded tiers of service usually include additional satellite delivered cable programming channels and are available for additional monthly fees. § 623(b)(7), 47 U.S.C. § 543(b)(7) and § 623(l)(2), 47 U.S.C. § 543(l)(2).

⁴⁰See App. B, Tbl. B-5. Some of the new networks in late 1996 and early 1997 include ESPNEWS, Fox News Channel, and the Discovery Channel Group including Animal Planet, Discovery Civilization, Discovery Kids, Discovery Science, and Discovery Travel & Living. NCTA, *Directory of Cable Networks*, Cable Television Developments, Spring 1996, at 28-100; Telephone interview with Gregory Klein, Director of Economic and Policy Analysis, NCTA, (Nov. 13, 1997) ("Klein Interview, Nov. 13").

⁴¹Most cable television systems also offer premium services on a per channel basis for an extra monthly fee, and pay-per-view services on a per program basis. § 623(b)(7), 47 U.S.C. § 543(b)(7) and § 62(l)(2), 47 U.S.C. § 543(l)(2). Nielsen also reports pay-per-view in this figure.

⁴²See App. B, Tbl. B-5.

⁴³Klein Interview, Nov. 13.

20. *Programming Payments.* License fees paid by cable system operators to basic cable network programmers increased by 16.3%, from approximately \$2.683 billion in 1995 to \$3.121 billion in 1996.⁴⁴ Analysts estimate that in 1997, fees will increase by an additional 13.5% to \$3.54 billion.⁴⁵ A study of television programming costs submitted by the NCTA suggests that these increases are part of a trend toward increased programming costs in both the broadcast and cable television industries that reflects sharply increased payments to sports teams, leagues, athletes, film producers, distributors, talent, and syndicators of television programming.⁴⁶ Copyright fees paid by cable system operators for broadcast signal carriage under Section 111 of the Copyright Act⁴⁷ increased 6.5% from \$165 million in 1995 to \$176 million in 1996.⁴⁸ From January 1, 1997, to October 21, 1997, \$77.798 million in copyright fees have been collected from cable system operators.⁴⁹

2. *Financial Performance*

21. Data concerning cable industry revenue and cash flow indicates that the cable industry remained financially strong in 1996 and the first half of 1997.

22. *Cable Industry Revenue.* Financial analysts report annual cable industry revenue for 1995 was \$24.898 billion, which grew 8.9% to \$27.120 billion in 1996.⁵⁰ For 1996, revenue per subscriber grew 5.6% to reach \$431.85 per subscriber per annum by year's end.⁵¹ While total industry revenue data for the first

⁴⁴Paul Kagan Assocs., Inc., *Economics of Basic Network Programming (1993-2006)*, Cable TV Programming, Apr. 30, 1997, at 7. Some attribute the increase primarily to programmers' increasing programming rates as opposed to increases in subscribers or increases in the channels exhibiting additional programming. Price Colman, *War Looms Over Program Prices*, Broadcasting & Cable, Dec. 16, 1996, at 11; and NCTA Comments at 20-21.

⁴⁵Paul Kagan Assocs., Inc., *Economics of Basic Network Programming (1993-2006)*, Cable TV Programming, Apr. 30, 1997, at 7.

⁴⁶Submitted by NCTA: Kagan Media Appraisals, Inc., *TV Programming Costs: An Analysis of the Market Forces Driving Entertainment and Sporting Rights Fees*, Dec. 1997.

⁴⁷Copyright Act, 17 U.S.C. § 111 *et seq.* Details of the major copyright issues affecting multichannel programming distribution are discussed at paras. 241-247 *infra*. Among the recommendations made by the U.S. Copyright Office in its "A Review of the Copyright Licensing Regimes Covering Retransmission of Broadcast Signals," (Aug. 1, 1997), is a recommendation that Congress adopt a flat, per subscriber, per signal fee for cable similar to the fee structure already in place for satellite carriers.

⁴⁸ Copyright Office, Library of Congress, *Licensing Division Report of Receipts*, Oct. 21, 1997. The actual fees collected as of October 21, 1997, for 1995 are \$165,139,301.58 and for 1996 are \$176,039,869.01.

⁴⁹*Id.*

⁵⁰See App. B, Tbl. B-6. Annual revenue grew 9.3% in 1995 from \$22.786 billion total annual revenue in 1994 to \$24.898 billion total annual revenue in 1995.

⁵¹*Id.*

part of 1997 are not available, analysts estimate 1997 year-end total revenue will be approximately \$30 billion, an increase of 9.9% from the 1996 total year-end revenue.⁵²

23. When total cable system revenue is categorized by source, the greatest revenue growth as a percentage of total revenue in 1996 was in the pay-per-view sector, which increased 20.9% from \$535 million annual revenue in 1995 to \$647 million annual revenue in 1996.⁵³ Industry analysts predict this will increase in 1997 to an annual revenue of \$815 million.⁵⁴ Advertising revenues retained by MSOs increased 16% in 1996 from \$1.4 billion in annual revenue in 1995 to \$1.7 billion in 1996.⁵⁵ Industry analysts predict this will increase in 1997 to annual revenue of almost \$2 billion.⁵⁶ Advertising revenues retained by programmers increased by 18.4%, from \$4.9 billion in 1996 to an estimated 1997 year-end figure of \$5.8 billion.⁵⁷ Home shopping and premium tier revenues grew the least in 1996. Revenue from home shopping services grew from \$144 million in 1995 to \$145 million in 1996, a 0.7% increase.⁵⁸ Annual revenue from pay tiers grew from \$4.8 billion in 1995 to \$4.9 billion in 1996, an increase of 4%.⁵⁹

⁵²*Id.*

⁵³See App. B, Tbl. B-6. Despite the loss of one pay-per-view network, the revenue generated by pay-per-view networks has increased. Some believe that this reflects increased use of pay-per-view service since there has not generally been an increase in pay-per-view programming prices. Pay-per-view is priced according to the number of programs purchased, thus the number of networks is not necessarily linked to the amount of revenue generated by such networks. Klein Interview, Nov. 13.

⁵⁴See App. B, Tbl. B-6. Paul Kagan Associates estimates year-end revenues for total revenue and for each revenue segment. Paul Kagan Assocs., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections*, Cable TV Investor, May 20, 1997, at 9.

⁵⁵MSOs retain advertising revenues from local advertising only. See App. B, Tbl. B-6.

⁵⁶See App. B, Tbl. B-6. Paul Kagan Associates estimates year-end revenues for total revenue and for each revenue segment. Paul Kagan Assocs., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections*, Cable TV Investor, May 20, 1997, at 9.

⁵⁷NCTA, *Cable Advertising Revenue*, Cable Television Developments, Fall 1997, at 9.

⁵⁸See App. B, Tbl. B-6.

⁵⁹*Id.*

24. In addition, the Commission calculates its own estimate of annual industry-wide revenue.⁶⁰ The Commission estimates that the cable industry's annual revenue increased between the end of 1995 and the end of 1996 by approximately 6.5% to approximately \$26.05 billion dollars.⁶¹ This increase is similar to the increase the Commission calculated for last year when annual revenue increased by approximately 6% from \$23.07 billion to \$24.45 billion between December 1994 and December 1995.⁶²

25. *Cable Industry Earnings Before Interest, Taxes, Depreciation, and Amortization.* Measurement of earnings before interest, taxes, depreciation, and amortization ("EBITDA"), commonly referred to as "cash flow" by the industry, is often used to value the financial position of cable firms. Financial analysts report that industry-wide cash flow increased by 9.1% between the end of 1995 and the end of 1996, from \$11.161 billion to \$12.177 billion.⁶³ For the year ending December 31, 1996, the cable industry generated approximately \$193.90 in annual cash flow per subscriber, about \$10 higher than the \$183.27 per subscriber generated for the year ending December 31, 1995.⁶⁴ There are currently no data available on industry cash flow for the first half of 1997, and analysts have not yet made predictions for year-end cash flow. The ratio of cash flow to revenue ("cash flow margin") increased from 44.8% in 1995 to 44.9% in 1996.⁶⁵

⁶⁰The Commission calculates its own estimate of industry-wide annual revenue in order to supplement information obtained from industry analysts. To calculate the industry-wide estimates of revenue, we first calculate an average revenue per subscriber figure for each year by dividing the total revenue of the companies in the group by the total number of subscribers of these companies for that year. Second, we multiply this average revenue per subscriber figure by an estimate of the industry's average subscribership for the year. The same methodology was followed to calculate the industry-wide estimates of cash flow. The estimates in this *1997 Report* differ from those in the *1996 Report* because secondary sources were used in many cases to obtain data, and only the firms with subscribership of 500,000 or more were analyzed. Unless otherwise noted, 1995 data used are from the companies' public filings with the Securities and Exchange Commission, their press releases, or discussions with company personnel. Some of the data taken from these sources have been adjusted to take into account acquisitions which occurred during each year. These adjustments are described in the notes for each table. Due to lack of data, adjustments have not been made for all acquisitions. Data collected for 1996 are from numerous sources which make it more closely aligned with industry estimates.

⁶¹See App. B, Tbl. B-7B.

⁶²*Id.* Tbl. B-7A.

⁶³*Id.* Tbl. B-6.

⁶⁴*Id.*

⁶⁵See App. B, Tbl. B-6. Cash flow margin is a commonly used financial analysis tool for determining an MSO's operating efficiency, profitability, and liquidity.

26. The Commission generates its own estimate of industry-wide cash flow, and estimates that industry-wide EBITDA in 1996 was approximately \$12.4 billion, a 9.3% increase over 1995.⁶⁶ This is up from last year's estimated increase of 5.8% from approximately \$10 billion in 1994 to \$10.6 billion in 1995.⁶⁷

3. *Capital Acquisition and Disposition*

27. *Cable Industry Financing.* From January to December 1996, the cable industry secured more private debt financing, but less public debt financing, than between January and December 1995.⁶⁸ In the first half of 1997, issuance of public debt by the cable industry rose, though the industry acquired less private debt.⁶⁹ This change is likely due to the low interest rates available in the public market throughout 1997.

28. *Cable Industry Financing -- January to December 1996.* The cable industry has typically relied on combinations of private and public financing, with the exact distribution of these combinations varying greatly from year to year. In 1996, the cable industry acquired \$2.6 billion of net new private debt financing (i.e., financing received by MSOs from banks, insurance companies, and other institutional investors). This represents a significant increase over 1995's negative net activity of \$808 million in private debt financing.⁷⁰ In 1996, \$2.94 billion of public debt was issued and \$1.586 billion was redeemed, yielding \$1.354 billion in net new public debt financing.⁷¹ This represents 78% less public debt financing than in 1995.⁷² The remaining industry financing was obtained through a mixture of private equity (i.e., equity received by MSOs from individuals, private corporations, venture capital firms, and investment banks) and public equity offerings (i.e., stock markets), which yielded a combined \$2.9 billion in total equity activity, compared to the \$5 billion in total public and private equity activity during 1995.⁷³

29. *Cable Industry Financing -- Recent Developments through June 1997.* From January through June 1997, the cable television industry acquired less private debt than during the same period in 1996. Between January and June 1997 the industry acquired \$735 million of private debt compared with \$1.7 billion

⁶⁶See App. B, Tbl. B-7A.

⁶⁷See fn. 60 *supra* for explanation of methodology and sources of information.

⁶⁸See App. B, Tbl. B-8. Refinancing activity increased over the previous year's activity. Paul Kagan Assocs., Inc., *Cable TV Financial Snapshot--December*, Cable TV Finance, Jan. 31, 1997, at 10.

⁶⁹See App. B, Tbl. B-8.

⁷⁰*Id.* In 1995, more private debt was redeemed than issued causing net negative activity of \$808 million.

⁷¹See App. B, Tbl. B-8. and Paul Kagan Assocs., Inc., *Cable TV Financial Snapshot--December*, Cable TV Finance, Jan. 31, 1997, at 10.

⁷²*Id.* In 1996, there was considerably more refinancing by the industry. More than \$20 billion was refinanced in 1996, while only \$12 billion was refinanced the prior year.

⁷³*Id.*

for the same period of 1996.⁷⁴ However, considerably more public debt was issued between January and June 1997 than during the same period in 1996. Approximately \$7.5 billion of net new public debt was issued for the first half of 1997 while approximately \$2.7 billion was issued during the same time period in 1996.⁷⁵ Again, this is likely due to attractive interest rates available in the public market throughout 1997. Public equity activity was \$1.2 billion from January through June 1997 down from \$3.5 billion of activity from January through June 1996.⁷⁶

30. *Capital Expenditures.* In 1996, the cable industry invested approximately \$5.6 billion in construction of plant and equipment. This includes maintenance, new builds, rebuilds, converters, upgrades, and inventory, and is a 3.3% increase over last year's \$5.4 billion expenditures.⁷⁷

31. Increased capital expenditures are expected to continue in 1997 and beyond. Many of the large cable MSOs have made commitments to capital improvements for their systems. For example, MediaOne is currently undertaking a multi-billion dollar capital expenditure program to upgrade or substantially rebuild all of its systems by the end of 2000 by deploying hybrid fiber-coaxial ("HFC")⁷⁸ networks in combination with digital compression technology.⁷⁹ In 1997, MediaOne spent approximately \$650 million on these rebuilds, which, combined with expenditures of \$829 million in 1995 and 1996, represents an investment of more than \$300 per subscriber since 1994.⁸⁰ In 1996, MediaOne completed many of its proposed upgrades and in 1997 these upgrades continue to be made.⁸¹ Cablevision Systems is in the process of upgrading its Long Island, New York, and select New Jersey systems to a 750 MHz HFC network in order to provide over 470,000 of its customers with better picture quality, reduction in power interruptions, and better overall quality control for

⁷⁴Paul Kagan Assocs., Inc., *Cable TV Financial Snapshot--May*, Cable TV Finance, Aug. 31, 1997, at 8.

⁷⁵*Id.*

⁷⁶*Id.*

⁷⁷Paul Kagan Assocs., Inc. *Cable TV Financial Databook*, 1997, at 118.

⁷⁸HFC uses both fiber and coaxial cable, extending fiber optics from the cable system's headend to a fiber optic node in the neighborhood. A shared coax cable extends from that node to a group of 150 to 500 customers, with each customer sharing that cable. Fiber to the curb ("FTTC") provides a fiber interface within 1,000 feet of the premises. HFC eliminates most, if not all, the need for amplifiers because it uses only a short length of coaxial cable. Price Waterhouse, *EMC Technology Forecast 1998*, at 125.

⁷⁹US West Comments at 14-15.

⁸⁰*Id.* at 18-19; *Continental Cablevision, Inc. Social Contract Annual Progress Report on Capital Spending for System Upgrades and Rebuilds 1996*, Continental Cablevision, Inc., Mar. 31, 1997, at 1.

⁸¹*Id.* at 5-13. MediaOne completed many proposed rebuilds in 1996 including most of its Massachusetts rebuilds; rebuilds in the northern suburbs of New York City; Bow, New Hampshire; Oakland Park, Pompano Beach, Wilton Manors, Lazy Lake, and Broward County Florida; St. Paul, Minnesota; numerous locales in Illinois; and a few locales in California, Nevada, Washington, and Idaho. The status of 1997 rebuild activity will be reported in MediaOne's annual progress report to the FCC to be filed Mar. 1998.

the operator.⁸² Cablevision has completed its upgrades in numerous locales in its Long Island, New York, system and upgrades in numerous locales in New Jersey.⁸³ Time Warner has agreed to upgrade all its cable systems to a capacity of at least 550 MHz with 50% of all subscribers having access to at least 750 MHz.⁸⁴ Time Warner has plans underway to invest \$4 billion in capital costs in connection with the upgrade of its cable systems, and at the end of 1996 had invested \$1.4 billion.⁸⁵ In 1997, Marcus Cable upgraded its Glendale, California, system to 750 MHz HFC, in order to provide its customers with increased channel capacity, enhanced picture and sound quality, and improved reliability.⁸⁶ These upgrades will enable future delivery of services such as video conferencing and Internet access.⁸⁷ Bresnan Communications upgraded 75% of its systems to 750 MHz, HFC architecture by the end of 1997, with upgrades of an additional 13% of its systems to 550 MHz.⁸⁸ Bresnan, for example, spent over \$5.35 million to upgrade its system in Marquette, Michigan, to 750 MHz capacity.⁸⁹ One example of upgrades made by Comcast is its upgrade to a 750 MHz system in the Detroit metropolitan area, where Ameritech competes with Comcast.⁹⁰ Jones Intercable's most notable expenditure in 1997 has been its approximately \$36 million construction of a new HFC network in Alexandria, Virginia, and Prince George's County, Maryland.⁹¹

4. *Other Performance Indicators*

32. *Cable System Transactions.* The number of mergers, acquisitions, and exchanges between MSOs has fluctuated greatly over the past few years. The number of systems sold doubled between 1994 and

⁸²Cablevision Systems Long Island Corporation, FCC Form 1235, filed Mar. 28, 1997, at 1-2.

⁸³*Id.*; Cablevision of New Jersey, Inc., FCC Form 1235 filed Apr. 11, 1997, at Attachment I; Cablevision of Monmouth, FCC Form 1235 filed Apr. 11, 1997, at Attachment II; Cablevision of Hudson County, FCC Form 1235 filed Apr. 11, 1997, at Attachment II;

⁸⁴*Social Contract for Time Warner*, Memorandum Opinion and Order, 11 FCC Rcd 2788, 2798 ¶ 25 (1995).

⁸⁵*Id.* They completed \$1.4 billion in compliance with their commitment to the Social Contract. See *Social Contract Progress Report 1996*, Time Warner Cable, at 5.

⁸⁶*Marcus Cable Associates, L.P., Complaints Regarding Cable Programming Services Tier Rate Increases*, CUID No. CA0180, Order, DA 97-983, ¶ 10 (rel. May 9, 1997).

⁸⁷*Id.*

⁸⁸Telephone interview with Daniel White, Manager of Planning and Compliance, Bresnan Communications (Nov. 5, 1997) ("Daniel White Interview, Nov. 5").

⁸⁹Bresnan Communications, FCC Form 1235, filed December 28, 1995, at 1-2.

⁹⁰Ameritech Comments at 11.

⁹¹Telephone interviews with Dilpreet Jammu, Director of New Business Development, Jones Intercable (Oct. 27 and Dec. 3, 1997) ("Jammu Interviews, Oct. 27 and Dec. 3").

1995 from 64 to 128 transactions,⁹² but between 1995 and 1996, there was 19.5% decrease in systems sold for a total of 103 transactions by year's end.⁹³ Of these 103 transactions, 8 were system swaps, thus making up 16 of the 103 transactions.⁹⁴ In 1995, approximately 20 of the 128 transactions were 10 different swaps.⁹⁵ From January 1997 through June 1997, 44⁹⁶ transactions have been recorded with 11 swaps making up 22 of those transactions.⁹⁷ Among systems changing hands, the total number of subscribers served and the average system size of these systems continue to vary greatly from year to year. Among 1996 transactions, the average system size decreased 11.4% from an average 85,450 subscribers per system in 1995 to an average 75,728 subscribers per system in 1996. Among transactions between January and June 1997, the average number of subscribers per system was 54,210.⁹⁸ The total number of subscribers affected by system transactions decreased 28.7% from approximately 11 million subscribers in 1995 to approximately 8 million subscribers in 1996.⁹⁹ Thus far in 1997, the total number of subscribers affected has been 2.4 million.¹⁰⁰ The total dollar value of transactions decreased 19.1% between 1995 and 1996, following a 43.2% increase between 1994 and 1995. The average dollar value per subscriber of 1997 transactions has been approximately \$1,700 through June.¹⁰¹

33. *Overbuilding.* Head-to-head competition, where two or more wireline cable television systems compete for the same subscribers in the same local market, has increased over the past year.¹⁰² As of July 1997, cable franchises have been awarded to competitors to incumbent cable operators in 81 communities in

⁹²See App. B, Tbl. B-9. This includes all systems bought and sold.

⁹³*Id.*

⁹⁴1996 Report, 12 FCC Rcd at 4501-4507 App. F, Tbl. 5. See also App. E, Tbl. E-5. Transactions include both the buyer and the seller, thus one swap counts as two transactions.

⁹⁵1995 Report, 11 FCC Rcd at 4501 App. G, Tbl. 5.

⁹⁶This figure of 44 transactions differs from the figure of 46 transactions in App. E, Tbl. E-5 because of inconsistencies in the reporting procedures of the source that our analysis has uncovered.

⁹⁷See App. E, Tbl. E-6. A transaction recorded on this table may not actually take place, although it has been announced to the public. Most recorded transactions do take place, although a few each year fall through.

⁹⁸*Id.*

⁹⁹See App. B, Tbl. B-9.

¹⁰⁰*Id.*

¹⁰¹*Id.* More detailed information regarding transactions is provided in paras. 140-148 *infra*.

¹⁰²Paul Kagan Assocs., Inc., *Cable TV Regulation*, July 31, 1997, at 1.

14 states covering 5.43 million homes.¹⁰³ This activity results almost entirely from LECs entering the market as permitted by the 1996 Act.¹⁰⁴

34. *Stock Prices.* During the 3rd Quarter of 1997, market valuation of the cable industry experienced a sharp increase. Analysts attribute the increase to Microsoft's investment in Comcast,¹⁰⁵ the dissolution News Corp.'s planned venture with EchoStar and subsequent alliance of its ASkyB assets with Primestar,¹⁰⁶ and the rollout of the new cable data service, @Home.¹⁰⁷ Analysts expect an increase in the market value of cable stocks to continue, and expect that future appreciation will be driven primarily by accelerating revenue and cash flow growth.¹⁰⁸

35. While the Standard and Poor's Index 500 ("S&P 500") has steadily increased since January 1992, with more significant increases beginning mid-way through 1995, the prices of cable stocks, as represented by the Kagan MSO Index, have also generally increased, though with some fluctuation.¹⁰⁹ The Kagan MSO Index remained almost even with the S&P 500 throughout most of 1992, but rose sharply above it in November 1992 following enactment of the 1992 Cable Act. The Kagan MSO Index remained above the S&P 500 until shortly after the 1996 Act in February 1996, fell below the S&P 500 in April 1996, and remained below the S&P through June 1997.¹¹⁰

¹⁰³*Id.* This includes all franchises currently in operation.

¹⁰⁴This is discussed in more detail at paras. 112-115 *infra*.

¹⁰⁵See para. 48 *infra* for more details on Microsoft's investments in MSOs.

¹⁰⁶After News Corp's proposed \$1 billion acquisition of EchoStar Communications Corp. failed to materialize, News Corp. decided to sell its satellite assets to PrimeStar for \$1.1 billion and, in turn, PrimeStar, a partnership controlled by six media companies, will reorganize its ownership structure to become a public entity. ASkyB (of which News Corp. owns 80%, MCI owns the other 20%) will own 20%, non-voting stake in PrimeStar. As for the ownership structure of PrimeStar, TCI's Satellite Entertainment subsidiary will control about 38%; Time Warner Inc., 30%; Comcast, 10%; US West's MediaOne, 10%; Cox, 10%; and GE Co., 2%. See Robert Liu, *Murdoch Sells Satellite Ops*, CNNfn at <http://cnnfn.com/hotstories/deals/9706/11/primestar/html>

¹⁰⁷Richard Bilotti, *et al.*, Morgan Stanley, Dean Witter, Discover & Co., *Third-and Fourth Quarter 1997 Cable Television Preview: Recent Rally May be Just the Tip of the Iceberg*, Oct. 10, 1997, at 1.

¹⁰⁸*Id.*

¹⁰⁹Some of the events that have coincided with sharp increases in the Kagan MSO Index include the enactment of the 1992 Cable Act which caused the Kagan MSO Index to rise sharply above the S&P 500, the September 1993 announcement of a proposed Bell Atlantic/TCI merger, and Microsoft's \$1 billion investment in Comcast earlier this year. Some of the events that have coincided with dramatic decreases in the Kagan MSO Index include the 1992 Cable Act benchmark order (first) rate rollback of 10%, the (second) rate rollback of 7% pursuant to the same benchmark order, the Bell Atlantic/TCI Breakup, and the 1996 Act.

¹¹⁰Although the Kagan MSO Index was below the S&P 500 between April 1996 and June 1997, it has begun mimic S&P trends around March 1997.

5. Price Survey and Cable Rate Issues

36. Section 623(k) of the Communications Act requires the Commission to publish annually a statistical report on average rates for the delivery of basic cable service, other cable programming services, and equipment.¹¹¹ Specifically, Section 623(k) directs the Commission to compare prices charged by cable systems facing effective competition with those not facing effective competition.¹¹²

37. The Commission recently issued its annual report for 1997 based on results of a survey of cable industry prices conducted in the summer of 1997.¹¹³ The survey requested data as of July 1, 1995, July 1, 1996, and July 1, 1997.¹¹⁴ Cable operators were asked to provide price data on cable services and to explain any change in rates between July 1, 1995, and July 1, 1996, and between July 1, 1996, and July 1, 1997. After the data were collected, the Commission supplemented the survey data with information about the respondents' regulatory status to compare prices and channel capacity between noncompetitive regulated and unregulated cable operators as well as competitive and noncompetitive operators.¹¹⁵

38. Based on 485 completed questionnaires, the Commission found: (a) the average monthly charge for programming services and equipment rose for both the competitive and noncompetitive groups, with the noncompetitive group charging higher average monthly rates than the competitive group in each of the time periods studied;¹¹⁶ (b) subscribers that purchase cable services from regulated operators typically pay less, on a per channel basis, for programming services and less for equipment than subscribers that purchase services

¹¹¹Section 623(k) was added to the Communications Act by the 1992 Cable Act, 47 U.S.C. § 534(k).

¹¹²Under the 1992 Cable Act, effective competition exists in these three situations: (1) where the franchise area is served by at least two unaffiliated multichannel video programming distributors, each of which "offers comparable video programming" to at least 50% of households, and at least 15% of households subscribing to programming services offered by an MVPD subscribe to services other than those offered by the largest MVPD; (2) where fewer than 30% of the households in the franchise area subscribe to the cable service of a cable system; or (3) where a municipal cable system offers service to at least 50% of the households in the franchise area. § 623(l)(1)(A)(B)(C), 47 U.S.C. § 543(l)(1)(A)(B)(C). The 1996 Act added a fourth test for effective competition: when a local exchange carrier or its affiliate (or any MVPD using the facilities of such carrier or its affiliate) offers video programming services (other than direct-to-home satellite services) in the franchise area of an unaffiliated cable operator, but only if the services so offered are comparable to the services provided by the cable operator. § 623(l)(1)(D), 47 U.S.C. § 543(l)(1)(D).

¹¹³*Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992, Statistical Report on Average Rates for Basic Service, Cable Programming Services, and Equipment*, MM Dkt. No. 92-266, Report on Cable Industry Prices, FCC 97-409 (released Dec. 15, 1997).

¹¹⁴This report represents the fifth survey of cable rates conducted by the Commission since 1992.

¹¹⁵Regulated cable operators are those whose rates are regulated under the Commission's rules. Unregulated operators are operators that are not regulated because local regulatory authorities have not obtained certification to regulate rates pursuant to 47 C.F.R. § 76.910, and no complaint has been filed with the Commission concerning their cable programming services tiers. (The category of unregulated operators in this report excludes operators that are not regulated because they are subject to effective competition.)

¹¹⁶When "low penetration" systems are omitted from the competitive group, that disparity grows even wider.

from unregulated operators; (c) both competitive and noncompetitive operators attribute most of their rate increases to inflation, increased programming costs, channel additions, and system upgrades, although competitive and unregulated operators also attribute portions of their rate increase to increased equipment costs; (d) both competitive and noncompetitive operators increased their average channel capacity, now offering subscribers additional satellite channels, and had corresponding reductions in their average monthly rates per channel.¹¹⁷

39. *Comparison of Prices Charged by Cable, DBS, and MMDS.* The Commission found that the average monthly rate charged by cable operators, as of July 1, 1997, was \$26.33 for programming services (including basic and expanded basic services, but excluding New Product Tiers ("NPTs"), premium, and pay-per-view services) and \$2.52 for equipment. The average monthly rate for programming and equipment combined was \$28.83. On average, cable industry subscribers received 49.4 channels at an average monthly rate per channel of \$0.63.

40. While it is difficult to make a direct meaningful comparison between rates charged by cable operators and other MVPDs, such as DBS and MMDS, because the offerings are not directly comparable, it is possible to make a rough comparison since there are similarities. A comparison of monthly charges for cable, DBS, and MMDS services is shown in Table B-10. The level of service from DBS that would be most comparable to typical cable service would be the basic service without premium channels. On average, that level of service from DIRECTV and Primestar, the two DBS providers with the largest number of subscribers, was \$27.49 as of July 1997. This rate was for programming service only, not including equipment, and was for a basic programming package of 47 channels, for an average monthly cost of \$0.66 per channel. The average monthly rate for MMDS service was \$21.29 for an average programming package of 22.7 channels, or an average monthly cost of \$0.94 per channel. This rate includes the cost of equipment.

41. It is difficult to compare the cost of equipment since service from DIRECTV requires the purchase of equipment. Service from Primestar and from MMDS providers includes \$10 for the cost of equipment. Cable service does not involve purchasing equipment, but does include the rental of equipment. As of July 1997, the one time cost of equipment for DIRECTV was, on average, about \$200. However, for purposes of making a comparison, if we assume the cost of equipment can be spread over five years (or 60 months) and without considering the time value of money, we can estimate an "equivalent" cost for equipment on a monthly basis of \$3.33. This would result in a combined average cost for programming and equipment of \$30.82 per month for DBS service, or \$0.66 per channel. As indicated, however, this rate does not take into account the upfront installation costs associated with DBS and the cost for service to additional television sets which must be considered before making a comparison to the per channel rate for cable given above.

42. There are several caveats to consider when making this comparison. Cable service includes the retransmission of local broadcast channels, while DBS service typically does not include local channels. Depending on a number of factors including terrain and their location relative to the station's transmitter, subscribers to DBS service can receive local broadcast channels over-the-air without charge if they have an antenna, or if they prefer, they can subscribe to basic cable service as a way of receiving local broadcast

¹¹⁷However, regulated operators offer more channels than unregulated operators, and subscribers of regulated operators pay substantially less on a per channel basis than subscribers purchasing services from unregulated operators.

channels. As of July 1997, cable basic-only service cost on average \$11.20 per month. The comparison also does not include the cost of installation. On average, cable installation cost \$39.59, as of July 1997, and DBS installation costs varied from \$50 for a do-it-yourself kit to about \$150 to \$200 for professional installation. The average MMDS installation charge as of July 1997 was \$35.¹¹⁸ When comparing MVPD prices, a number of other factors should be considered. Cable service is typically analog service while DBS service is digital, and the DBS digital-quality picture and sound are superior to analog cable transmission. MMDS service is also typically analog service and the number of channels that can be offered over analog MMDS service is limited. In addition, DBS subscribers usually do not take the basic-only service package because the level of service that most DBS subscribers are interested in includes the more complete programming packages with additional premium movie channels and sports programming channels.

43. *Tier Adjustments.* Year-to-year comparisons in cable, or in MVPD rates more generally, suffer from the fact that the nature of the service in question continues to evolve so that rates, rather than being for a constant level of service, are for somewhat different service offerings. Estimating a price per channel is one means of trying to take this change into account, although it is clear that all channels are not perceived to be equally valuable. Shifts in desirable programming from premium or pay channels to basic or CPS tier channels may also reflect a change in the quality of the service measured. NCTA, for example, states that sports is an area of competition among MVPDs, and that in response to sports channels carried in the DBS basic package, virtually all cable systems have migrated their regional sports networks from premium service tiers to basic and CPS tiers.¹¹⁹ According to NCTA, of the approximately 10,750 cable systems nationwide, regional sports networks are carried as a basic or expanded basic service on approximately 4,259 systems, as compared with 41 systems that carry them as premium services.¹²⁰ Similarly, the Disney Channel, originally a premium service, is now carried as a basic or CPS tier channel on cable systems serving more than 22 million subscribers. MediaOne indicates that it has shifted premium channels, such as regional sports services and the Disney Channel, to CPS tiers.¹²¹ In the Northeast, MediaOne has moved SportsChannel New England from a premium tier to its expanded basic tier. In Michigan, it is repositioning Pro-Am Sports Service ("PASS") from partial premium carriage to full-time cable programming service tier carriage. On MediaOne's Stockton, Yuba City, and Fresno, California, systems, SportsChannel Pacific was formerly carried as a premium service, but is now carried as part of the CPS tier.¹²²

44. Regional sports programming channels and other premium service migration typically results in a price increase for tier service, but a rate decrease for those who subscribed to the channel prior to its migration. For example, in Montgomery County, Maryland, cable customers who previously purchased Home Team Sports ("HTS") as a premium service have experienced an overall reduction in their cable rates. Prior to the July 1, 1997, migration of HTS to the "preferred" tier, customers paid \$42.35 monthly for preferred service plus HTS received as a premium service. Effective July 1, 1997, those same customers began paying

¹¹⁸See App. B, Tbl. B-10.

¹¹⁹NCTA Comments at 27.

¹²⁰*Id.*

¹²¹US West Comments at 1.

¹²²*Id.*

\$34.39 for the preferred service that included HTS.¹²³ However, customers who had not subscribed to the HTS as a premium service experienced an increase in their rates from \$31.39 for their preferred service to \$34.39 for preferred service that now included HTS.¹²⁴ Comcast's SportsNet is expected to be distributed to subscribers without their being assessed a separate charge and to replace services offered on a premium basis. System operators themselves will pay as much as a \$1.50 a subscriber for this service, a cost they will either absorb or pass on to subscribers.¹²⁵

6. *New Services*

45. Several cable operators are beginning to provide digital video, data, and voice services over their cable systems. Cable operators have generally needed to upgrade their cable plant and equipment prior to providing digital video, cable modem, or cable telephony services, particularly the two-way services.¹²⁶ Digital signal transmission, for example, is less tolerant of system interference than is analog signal transmission. Accordingly, cable systems previously providing only analog service may require upgrading to eliminate poor electronic connections and other sources of interference prior to carrying digital signals. In addition, operators may increase system capacity prior to commencing digital transmission. As an alternative to providing new services over existing cable plant, several cable operators are marketing non-video services, such as cellular telephone services, or leased-line telephone services, provided over non-cable facilities in addition to cable video services.

46. *Digital Video Services.* Compared to the analog signal transmission historically used in cable systems, digital signal transmission can provide superior video picture quality and, through digital compression techniques, increased channel capacity.¹²⁷ Subscriber reception of digital video signals requires a set-top device to decompress and decode incoming signals and to translate the digital signals into the analog signals used by current television sets. MSOs beginning to offer digital video service include TCI,¹²⁸ Cablevision Systems,¹²⁹

¹²³NCTA Comments at 28.

¹²⁴Manuel Perez-Rivas, *Cable Rates Not a Hit in Montgomery*, Washington Post, May 22, 1997, at A-1.

¹²⁵Mike Bruton, *Comcast Scores Big With Sports Network*, Philadelphia Inquirer, July 22, 1997, at 1.

¹²⁶See paras. 30-31 *supra*.

¹²⁷In allocating bandwidth to digital video, an MSO must determine the number of analog or otherwise unused channels to devote to digital video. In attempting to maximize the number of digital program channels per available bandwidth, MSOs have tried to maximize digital compression ratios. Some MSOs -- including TCI and Adelphia -- appear to be settling on a 12:1 digital to analog compression ratio which, for these MSOs, appears to provide adequate picture quality. Joel Brinkley, *Cable TV in Digital Push to Get in More Channels*, New York Times, Nov. 10, 1997, at D7. The picture quality provided by a 12:1 digital to analog compression ratio may be approximately equal to that provided by analog cable service, but is not as good as that provided by DBS systems' digital service or by lower compression ratios on other cable systems.

¹²⁸Hartford, Connecticut; Arlington Heights, Illinois; Fremont, Richmond, Perris, Pinole, Newbury, Pittsburgh, and Castro Valley, California; Bellvue, Washington; Corvallis, Oregon; Greely, Denver, Avon, and Ft. Collins, Colorado; Topeka, Kansas; Richmond, Indiana; and Mamaroneck, New York. TCI's digital video service passes 2.2 million homes covering most or all of the TCI homes passed in these markets. Telephone interview with

(continued...)

Comcast,¹³⁰ Cox,¹³¹ Time Warner,¹³² and US West's MediaOne.¹³³ Adelphia and Jones also plan to begin offering digital video service in selected markets.¹³⁴ TCI is using a 12:1 digital to analog compression ratio to provide 36 digital channels in its current digital video service.¹³⁵

47. *Internet and High Speed Data Services.* Internet and other data can be transmitted faster over some cable systems, using cable modems,¹³⁶ than over current twisted-pair telephone systems, using telephone modems¹³⁷ or integrated services digital network ("ISDN"),¹³⁸ asymmetrical digital subscriber line ("ADSL"),¹³⁹

¹²⁸(...continued)

Colleen Abdoulah, Assistant to Chief Operating Officer, Vice President of Digital Television, TCI, November 18-19, 1997 ("Abdoulah Interview, Nov. 18-19"); Ellis, Leslie and Joe Estrella, *TCI Rolls Out All TV In More Areas*, Multichannel News, July 14, 1997, at 8.

¹²⁹Boston, Massachusetts, and Los Angeles, California.

¹³⁰Orange County, California. Strategis Group, *Digital and Advanced Analog Set-Top Trials and Deployments*, Cable Trends: 1997, May 1997.

¹³¹Orange County, California. Telephone interviews with Alex Netchvolodoff, Vice President for Public Policy, Cox Enterprises, (Oct. 23, and Dec. 2, 1997) ("Netchvolodoff Interviews, Oct. 23 and Dec. 2").

¹³²San Diego, California and San Antonio, Texas. Strategis Group, *Digital and Advanced Analog Set-top Trials and Deployments*, Cable Trends: 1997, May 1997.

¹³³Richard Bilotti, *et al.*, Morgan Stanley & Co., Inc., *Multichannel Metamorphosis II: Digital Derby - Rounding Turn #1*, Apr. 25, 1997, at 64, 69, 79, and 84. Some industry analysts predict that cable operators' digital video services will generate substantial revenue (1 million to 1.5 million digital video subscribers for each of the seven listed firms within two to three years); Strategis Group predicts \$2.5 billion in digital cable revenues per year by 2002 from 14 million digital cable subscribers out of 63.4 million homes passed by digital cable, or 14% of homes passed or 20.4% of cable subscribers: Strategis Group, *Cable Trends 1997*, at 1-1; Morgan Stanley predicts \$3 billion in digital cable revenue by 2002 from 14 million digital video subscribers: Telephone interview with Marc Nabi, Research Assistant, Morgan Stanley & Co., Inc. (Oct. 22, 1997) ("Nabi Interview, Oct. 22")

¹³⁴Joel Brinkley, *Cable TV in Digital Push to Get in More Channels*, New York Times, Nov. 10, 1997, at D7. Jones offers digital video in Tucson, Arizona. Jammu Interviews, Oct. 27 and Dec. 3.

¹³⁵Abdoulah Interview, Nov. 18-19 .

¹³⁶*See 1996 Report*, 12 FCC Rcd at 4413-14 ¶ 103. TCI reports its cable modems as capable of sustained downstream transmission of 27 Mbps (27,000 Kbps) (for a shared network). Abdoulah Interview, Nov. 18-19. The current generation of personal computer Internet cards appears to be limited to approximately 10 Mbps.

¹³⁷Price Waterhouse, *EMC Technology Forecast 1998*, at 129.

¹³⁸ISDN is a technology used by telephone companies to deliver much higher data rates over one common twisted-pair than provided over a telephone line using conventional technology. Equipment is required at the consumer's home and in the telephone company's central office to effect the service, but the network remains the same as with plain old telephone service ("POTS"). The transmission is completely digital from end to end, as

(continued...)

or high-bit rate digital subscriber line ("HDSL") technology and equipment depending on the architecture.¹⁴⁰ MSOs offering cable modem service in 1997 include U.S. West's MediaOne, TCI, Time Warner, Comcast, Cox, Jones Intercable, Cablevision Systems, and Adelphia.¹⁴¹ TCI provides cable modem service throughout its systems in Hartford, Connecticut, Arlington Heights, Illinois, and Fremont, California, providing both upstream and downstream data transmission over its two-way plant in these areas.¹⁴² TCI plans to offer cable modem service in six to twelve additional markets during 1998.¹⁴³ US West's MediaOne offers data service marketed as "MediaOne Express," to approximately 10,000-20,000 customers in a widespread offering.¹⁴⁴ Other MSOs conducting cable modem market trials include Century, Charter, Fanch, Marcus, Media General,

¹³⁸(...continued)

opposed to POTS. The Yankee Group, *Bringing Broadband Home: New Networks for New Services*, Dec. 1995, at 15. Basic-rate ISDN provides two "B" channels of 64 Kbps each (combined 128 Kbps) and one administrative "D" channel of 16 Kbps for exchanging call setup information. The B-channels provide circuit-switched, end-to-end digital channels for customer communications; they can be used to interface with the voice telephone network. A standard ISDN line can carry up to 128 Kbps - or 64 Kbps plus a voice telephone call. Primary rate ISDN provides twenty-three 64 Kbps "B" channels and one 64 Kbps "D" channel achieving the T-1 speed of 1.544 Mbps. Price Waterhouse, *EMC Technology Forecast 1998*, at 126.

¹³⁹ADSL is a technology that offers downstream data rates of up to 6 Mbps and upstream rates between 64 and 600 Kbps over standard copper telephone wires. It does this through one of two competing ADSL technologies: Carrierless Amplitude and Phase-16 (CAP-16) and Discrete Multi-Tone (DMT). The Yankee Group, *Bringing Broadband Home: New Networks for New Services*, Dec. 1995, at 18. ADSL delivers data at a speed of 1.5 Mbps to 6 Mbps. Price Waterhouse, *EMC Technology Forecast 1998*, at 126.

¹⁴⁰Similar to ADSL, HDSL uses two copper twisted pairs to deliver the equivalent of a T-1 line (1.544 Mbps), with equal downstream and upstream bandwidth. This application is used by telephone companies to supply T-1 lines. The Yankee Group, *Bringing Broadband Home: New Networks for New Services*, Dec. 1995, at 18. HDSL delivers data at a speed of 1.5 Mbps to 6 Mbps. Price Waterhouse, *EMC Technology Forecast 1998*, at 126.

¹⁴¹See App. B, Tbl. B-11. These firms use cable modems from General Instrument, LAN City, Motorola, and Zenith.

¹⁴²Abdoulah Interview, Nov. 18-19. TCI provides @Home cable modem service for \$35 per month (unlimited usage, modem equipment included).

¹⁴³*Id.*

¹⁴⁴Telephone Interview with Jim White, Regulatory Counsel, US West's MediaOne, (Nov. 21, 1997) ("Jim White Interview, Nov. 21").

and Prime Cable.¹⁴⁵ There are currently about 50,000 cable modem subscribers as of October 1997, which is projected to grow to 197,000 next year as the service becomes more widely available.¹⁴⁶

48. Several systems are upgrading to improve their ability to provide these services. Indeed, cable systems' ability to transfer data at high speeds may give cable operators a strategic advantage in competing for revenues associated with Internet and other data services. Microsoft's \$1 billion investment in Comcast this June in exchange for a 11.5% interest in the company¹⁴⁷ may indicate the importance of cable operators to future competition in this area. Microsoft is reportedly considering investing in other cable companies as well.¹⁴⁸

49. Cable modem subscribers may benefit from numerous new services designed to take advantage of their high data transfer speeds. It is local and regional networks together that provide the high speed network to the subscriber and distinguish these systems from traditional dial-up on-line services which operate at much slower speeds.¹⁴⁹ The @Home local network, for example, has its own routing and caching (storage) servers which allow the most frequently accessed material from its own content centers and from the Internet to be transferred from the source to these storage areas.¹⁵⁰ @Home provides service for Comcast, Cox, TCI,

¹⁴⁵"Select Cable Modem Market Trials in North America: As of October 1, 1997" at <http://CableDatacomNews.com/cmhc8.htm>. Several industry analysts project that cable modem service will generate substantial revenues for cable operators. Strategis Group, *Cable Trends 1997*, at 1-1 (\$3 billion in annual revenues from cable modem service from 6 million subscribers out of 24 million homes passed by high-speed data-ready cable plant).

¹⁴⁶Jeff Peline, "Cable Modem Users Growing," *C/Net News.com*, Oct. 16, 1997, at <http://www.news.com/News/Item/0,4,15359,00.html>.

¹⁴⁷David Bank, *Microsoft, Time Warner and US West Discuss High-Speed Internet Service*, *Wall Street Journal*, Nov. 6, 1997, at B8. and John Markoff, *Microsoft Seems Near Deal to Invest in US West Cable TV*, *New York Times*, Nov. 5, 1997, at D1.

¹⁴⁸Microsoft is expressing interest in investing as much as \$1 billion in US West's MediaOne cable operations, and is reportedly in talks with TCI, Time Warner and Cox about future investments. See Kim, James, *Microsoft Charts Course into Cable*, *USA Today*, Nov. 6, 1997 at 2B. It has been reported that Microsoft's talks with Time Warner and US West's MediaOne specifically have involved the creation of a high-speed Internet access service that would compete with @Home Corp. See David Bank, *Microsoft, Time Warner and US West Discuss High-Speed Internet Service*, *Wall Street Journal*, Nov. 6, 1997, at B8.

¹⁴⁹Richard Bilotti, *et al.*, *Morgan Stanley & Co., Inc., Deploying High-Speed Cable Data Modems*, June. 21, 1996, at 10.

¹⁵⁰At Home Corp. was founded by TCI and venture capital firm Kleiner Perkins Caufield & Byers in May 1995. In June 1996, Comcast, Cox, and in 1997, Cablevision Systems all acquired equity investments in @Home. Two Canadian MSOs, Rogers and Shaw, along with Sun Microsystems purchased equity in @Home through a private stock placement in April 1997. The company went public in July 1997. InterMedia Partners, and Marcus Cable plan to distribute the service though they are not investors. A customer is not required to subscribe to cable television service to receive @Home Internet service. "Cable Internet Service Providers and Systems Integrators: @Home," at <http://CableDatacomNews.com/cmhc5.htm> and "@Home Availability & Live Demonstrations," at <http://www.home.net/home/availability.html>. and John M. Higgins, *Cablevision gets piece of @Home*,

(continued...)

InterMedia Partners, Marcus, and Cablevision Systems customers, as well as Canadian MSOs Rogers and Shaw.¹⁵¹ Service is currently available in numerous localities in Maryland, New Jersey, California, and Connecticut.¹⁵² The Road Runner service,¹⁵³ rather than building its own national network backbone and customer service infrastructure, has formed a partnership with MCI to provide these services.¹⁵⁴ MCI is providing the high speed Internet connections to the local cable system headends, managing a network operations center to monitor performance of local cable system data networks, and is operating a specialized help desk to provide technical support to subscribers.¹⁵⁵ Road Runner provides service for Time Warner Cable and several MSO affiliates including Cablevision Systems Corp., Century Communications, and Fanch Communications.¹⁵⁶ A number of other providers, such as WebTV, WorldGate, ICTV, NetChannel and Wink TV, are introducing services that will provide Internet content over television sets.¹⁵⁷

50. In September 1997, Cable Television Laboratories launched its "OpenCable" initiative to encourage development of interactive set top boxes. These boxes may include greater computing power, two-way capabilities, interactive programming guides, graphics accelerators and cable modems.¹⁵⁸ As cable operators convert to digital technology, the industry has made a major commitment to establishing an open standard for the next generation of cable boxes. CableLabs received 23 responses from computer and consumer electronics companies and other vendors to its OpenCable request for information.¹⁵⁹ The shift from proprietary technology to an open standard may lead to more manufacturers of the boxes, may spur a retail distribution market, and may prompt new high speed data and Internet service providers like those described here.

¹⁵⁰(...continued)

Broadcasting & Cable, Oct. 6, 1997, at 20.

¹⁵¹*Cable Internet Service Providers and Systems Integrators: @Home*, at <http://CableDatacomNews.com/cmhc5.htm>. and *@Home Availability & Live Demonstrations*, at <http://www.home.net/home/availability.html>.

¹⁵²*Id.*

¹⁵³The Road Runner Group was formed by Time Warner Cable and Time Inc., as a separate business unit to spearhead the development and deployment of high-speed cable data services. The Road Runner Group has leveraged a host of Time Warner content for its broadband service, including *Time*, *Money*, *People*, and *Sports Illustrated* Magazines, CNN, and Warner Bros. studios. *Cable Internet Service Providers and Systems Integrators*, "The Road Runner Group," See <http://CableDatacomNews.com/cmhc5.htm>.

¹⁵⁴*Cable Internet Service Providers and Systems Integrators*, "The Road Runner Group," See <http://CableDatacomNews.com/cmhc5.htm>.

¹⁵⁵*Id.*

¹⁵⁶*Id.*

¹⁵⁷ *Who's Who in Silicon Valley*, Cablevision, Dec. 8, 1997, at 26-60.

¹⁵⁸Price Colman, *Making Sense of Set-Tops*, Broadcasting & Cable, Oct. 27, 1997, at 51.

¹⁵⁹Telecommunications Reports, *Video Competition Report*, Dec. 15, 1997 at 7-8.

51. *Cable Telephony.* Cable telephony requires sizeable and expensive upgrades and presents a number of technical and regulatory obstacles.¹⁶⁰ Because other services can provide greater immediate revenue streams, many cable operators have limited their telephony efforts.¹⁶¹ Some analysts predict that cable telephony is not expected to be a significant revenue source in most markets for the industry in the near future.¹⁶² Cable telephony, however, is currently being offered by a few operators in several test markets. Among the MSOs offering telephone service are: Cox, US West's MediaOne, Cablevision Systems, Jones Intercable, TCI, and Time Warner.¹⁶³ Cox is currently offering voice telephone service over its own network¹⁶⁴ to more than 24,000 residential customers in Orange County, California, and expects to offer residential voice telephony service to almost 225,000 households in various markets by the end of 1997 including Omaha, Nebraska.¹⁶⁵ A number of public statements have been made by members of the cable industry indicating that a reassessment of the industry's ambitious proposals to enter the telephone business is taking place. Cox offers telephone service to business customers in Oklahoma City, Oklahoma, Hampton Roads, Virginia, and New Orleans, Louisiana, over leased telephone networks.¹⁶⁶ Cablevision System's cable telephone trials are being marketed to 115,000 households on Long Island, New York, with 5,000 subscribers as of March 1997.¹⁶⁷ Additionally, US West's MediaOne launched cable telephony¹⁶⁸ to one-third of the households in its Atlanta cable franchise area during 1997. Although this rollout is being described as a "commercial launch," it appears to be more of a trial.¹⁶⁹ TCI's telephone service over its own fiber network is currently available to 90,000 households in Hartford, Connecticut, Arlington Heights, Illinois, and Fremont, California. TCI plans to offer telephone service over its own plant to an estimated 250,000 households by the end of 1997.¹⁷⁰ TCI currently

¹⁶⁰Strategis Group, *Cable Trends 1997*, at 1-9, and Leslie Cauley, *Mile-High Melee: US West Takes Over A Huge Cable Firm, Then Angers Its Brass*, Wall Street Journal, Aug. 29, 1997, at A1.

¹⁶¹*Id.*

¹⁶²Strategis Group, *Cable Trends 1997*, at 1-9.

¹⁶³NCTA Comments at Apps. A1-A3.

¹⁶⁴Cox offers its residential customers telephone over its own HFC network (fiber to the node and coaxial cable to the residence).

¹⁶⁵Netchvolodoff Interviews, Oct. 23 and Dec. 2.

¹⁶⁶*Id.*

¹⁶⁷Jessica Reif Cohen et al., *Media & Entertainment*, Merrill Lynch, Mar. 7, 1997, at 19.

¹⁶⁸US West's MediaOne offers cable telephony using fiber to the node technology where fiber-optic cable is used to carry telephone transmission to community nodes. From those nodes, MediaOne states it transports telephone service via their cable plant. Jim White Interview, Nov. 21.

¹⁶⁹Dennis H. Leibowitz et al., *Broadcasting & Cable*, Cable Industry Outlook '97, Donaldson, Lufkin, & Jenrette, Apr. 17, 1997, at 11.

¹⁷⁰Jessica Reif Cohen et al., *Media & Entertainment*, Merrill Lynch & Co., Mar. 7, 1997, at 17.

has 1,000 telephone subscribers.¹⁷¹ Jones Intercable offers telephone service to 20,000 customers in Alexandria, Virginia, and in Maryland's Prince George's County. By the end of 1997, Jones Intercable plans to reach 30,000 customers.¹⁷² Currently, Jones provides telephone service over its own fiber network to MDUs and uses the existing copper twisted pair wiring inside the buildings to offer the service to customers.¹⁷³ It plans to begin offering service over the coaxial cable already installed for their cable customers soon.¹⁷⁴

52. *Multi-Service Offerings.* Several MVPDs are beginning to combine their video service offerings with other services (e.g., offering video programming with local or long distance telephony, cable modem and Internet access, and digital video). Cox announced plans in September to launch one of the largest multiservice offerings, including cable video, telephone, and Internet access to 25,000 renters in Irvine, California, apartment communities.¹⁷⁵ Additionally, Cox currently offers cable data service bundled (over one cable wire only) with their cable service to approximately 714,000 households in various markets, and expects to increase that number to over one million by the end of 1997.¹⁷⁶ As indicated in the previous paragraph, TCI is currently offering cable television and cable telephone to in selected markets.¹⁷⁷ Jones Intercable currently offers Internet access to 41,000 of its cable television customers in Alexandria, Virginia. As indicated above, Jones also offers telephone service to its cable television customers in Alexandria and in Maryland's Prince George's County.¹⁷⁸

53. Some analysts maintain that the success of offering multiple services through broadband cable wires may be threatened by technological difficulties (e.g. software bugs, disconnects, bad connections).¹⁷⁹ US West's MediaOne, for example, is reported to be having software problems adding telephone service to certain systems, although it states that the overall technical approach is still on track.¹⁸⁰ Ameritech reportedly does not plan to use its cable systems to offer telephony, at least in the near term, because it is seen as prohibitively

¹⁷¹*Id.*

¹⁷²Jammu Interviews, Oct. 27 and Dec. 3.

¹⁷³*Id.*

¹⁷⁴*Id.*

¹⁷⁵Huffstutter, P.J., *Cox Bundling Phone, Internet Services for Irvine Renters*, The Los Angeles Times, Sept. 26, 1997, at B5.

¹⁷⁶Netchvolodoff Interviews, Oct. 23 and Dec. 2.

¹⁷⁷Jessica Reif Cohen et al., *Media & Entertainment*, Merrill Lynch, & Co., Mar. 7, 1997, at 17.

¹⁷⁸Jammu Interviews, Oct. 27 and Dec. 3.

¹⁷⁹Andrew W. Davis, *Switched Network vs. Hybrid Fiber Coaxial for Two-Way Video From Telcos or Cable*, Advanced Imaging, Mar. 1, 1996, at 65. and Leslie Cauley, *Mile-High Melee: US West Takes Over A Huge Cable Firm, Then Angers Its Brass*, Wall Street Journal, Aug. 29, 1997, at A1.

¹⁸⁰*Id.*

expensive and technically difficult.¹⁸¹ To the extent that bundling emerges as technologically feasible and economically desirable for MVPDs, it has the potential to affect competition in markets for the delivery of multichannel video programming.

B. Direct Broadcast Satellite Services

54. *DBS Service Providers.* Direct broadcast satellite ("DBS") operators use satellites instead of broadband wires or terrestrial microwave stations to transmit their programming to subscribers, who must buy or rent a parabolic "dish" antenna that is approximately 18 inches in diameter, and pay a subscription fee to receive the service.¹⁸² Each DBS operator transmits its programming services to subscribers from specific orbital locations. Permissible orbital locations are established by international telecommunications regulations and Commission rules.¹⁸³ DIRECTV, United States Satellite Broadcasting ("USSB"), and EchoStar currently offer DBS video programming.¹⁸⁴ Primestar is a medium powered fixed satellite service ("FSS") that shares many of the attributes of DBS operators.¹⁸⁵ As with DBS, subscribers to Primestar must buy or rent a parabolic dish antenna and pay a subscription fee to receive service, though the Primestar dish is approximately three feet in diameter.

55. *Subscribership.* DBS systems serve more subscribers than any type of MVPD other than franchised cable system operators.¹⁸⁶ The four DBS providers furnished programming to nearly 5.1 million

¹⁸¹*Id.*

¹⁸²1996 Report, 12 FCC Rcd at 4376 ¶ 36.

¹⁸³See Table C-1 for allocation of orbital locations assigned by the United States.

¹⁸⁴Alphastar, a medium-powered FSS provider owned by Tee-Comm Electronics, Inc., filed for Chapter 11 bankruptcy protection in May 1997 and ceased transmitting to its 50,000 subscribers at 3:00 a.m. EDT on August 8, 1997. *AlphaStar Goes Dark, PrimeStar Prepares To Go West*, SkyREPORT, Aug. 1997, at 4; James Careless, *DBS Service AlphaStar Files for Chapter 11*, Multichannel News, June 2, 1997, at 46. DIRECTV has announced that it will give a satellite dish and integrated reception device ("IRD") receiver free to each former Alphastar subscriber who purchases DIRECTV programming. Subscribers must also pay for installation. See Paul Kagan Associates, Inc., *DIRECTV to the AID of SKYLINK*, Private Cable Investor, Aug. 31, 1997, at 12.

¹⁸⁵In the 1997 Report, as in previous years, we include a discussion of Primestar Partners, L.P. ("Primestar"), a medium-powered Ku-band Fixed Satellite Service ("FSS"), together with our high-powered Ku-band DBS providers, DIRECTV, USSB and EchoStar, as DBS providers. Unless otherwise noted, our discussions of attributes of DBS providers includes Primestar. Tables C-1, C-2, C-3, C-4 and C-5 provide certain transmission, channel, programming, subscriber and price information for these four firms. At this time, all direct-to-home ("DTH") satellite services use two different frequency bands for transmission, Ku-band and C-band. In the Ku-band (12/14 GHz), service is provided in two different portions of the band. Primestar provides medium power service while high powered DBS service is provided in another portion of the Ku-band. C-band service (4/6 GHz), is often distinguished by its larger antennas with diameters typically around seven and one-half feet (approximately 2.5 meters).

¹⁸⁶NCTA Comments at 1. SBCA Comments at 3; Dennis H. Leibowitz et al., *Satellite Industry Conference*, Donaldson, Lufkin & Jenrette, Aug. 1997, at 12; See Table E-1. See also 1996 Report, 12 FCC Rcd at 4376 ¶ 38.

subscribers as of June 1997.¹⁸⁷ This is an increase of more than 2.2 million subscribers since July 1996, and 400,000 more subscribers than the 1.8 million subscribers DBS providers gained in the previous 12 months, July 1995 to July 1996.¹⁸⁸ Predictions vary regarding the continued growth of DBS. Some industry analysts expect the DBS industry growth to continue, reaching 15 million subscribers by 2001 (14.5% of the total television market).¹⁸⁹ However, while DBS is gaining about 6,000 subscribers daily, some service providers have lowered their projections for the future, with at least one forecaster lowering its projection to 14.6 million subscribers by 2002.¹⁹⁰ In addition, DIRECTV, which had projected that it would have 10 million customers by 2000, no longer expects to meet this figure.¹⁹¹

56. DBS services offer many features which consumers rate highly, such as digital picture quality, compact disk sound clarity, increased channel capacity, near video on demand ("NVOD") movies and other interactive programming and data services.¹⁹² According to a Nielsen Media Research survey, on a scale of one to five (with five being the most satisfied), 80% of DBS subscribers rate overall satisfaction with their satellite service as a four or a five. By comparison, 45% of cable subscribers rate overall satisfaction with their cable service as a four or a five. The large number of channels and programming variety, especially sports¹⁹³

¹⁸⁷USSB subscribers are not reported as a group by SkyREPORT, *DTH Subscribers*, Sept. 1997, at 4. DIRECTV and USSB are complimentary services because subscribers use the same equipment to receive each service and the services offer different programming. According to SkyREPORT, only a small portion of USSB subscribers do not also receive DIRECTV.

¹⁸⁸See Tables C-3, C-4 and C-5. SBCA Comments at Appendix A; *DTH Subscribers*, SkyREPORT, Aug. 1997, at 8.

¹⁸⁹Richard Bilotti *et al.*, *Telecommunications, Cable Television, Multichannel Metamorphosis II, Digital Derby-Rounding Turn #1*, Morgan Stanley, Apr. 25, 1997, at 2.

¹⁹⁰Video Week, Warren Publishing, Aug. 4, 1997; Dennis H. Leibowitz *et al.*, *Direct Broadcast Satellite (DBS) Industry*, Donaldson, Lufkin & Jenrette, Nov. 21, 1997 at 11, citing Paul Kagan Associates.

¹⁹¹*Id.*

¹⁹²Stuart Levin, *Programmer Spotlight, Digital Cable Television is Here: Just in Time to Meet the DBS Threat to Cable*, Independent Cable News, June 1997, at 12; Leslie Ellis *et al.*, *TCI Rolls Out All TV in More Areas*, Multichannel News, July 14, 1997, at 8; *Consumer Communications, Cable TV's Changing Competitive Landscape*, The Yankee Group White Paper, Mar. 1997, at 2; Dennis H. Leibowitz *et al.*, *Broadcasting & Cable, Tele-Communications, Inc. (TCOMA), The New Game Plan*, Donaldson, Lufkin & Jenrette, Dec. 23, 1997, at 5.

¹⁹³According to a poll by Bruskin/Goldring Research, 47% of those surveyed and 52.4% of the male subscribers cited sports as the reason they subscribed to DBS. DIRECTV and Primestar offer as many as 29 channels of sports programming, including ESPN's "Full Court" collegiate basketball and "GamePlan" collegiate football channels, the 24 FOX SPORTSCHANNELS and HTS regional sports channels, and the full, regular season professional league sports networks. Other sports entertainment events have included this summer's USSB's Tyson-Holyfield boxing match (*see* DIRECTV, Inc. Comments, *Programming Lineup*; Primestar website at <<http://www.primestar.com/ezget/news/articles/facts/65new.htm>>; Dennis H. Leibowitz *et al.*, *Satellite Industry Conference*, Donaldson, Lufkin & Jenrette, Aug. 1997, at 17, 18. The league channels include not only the NHL's Center Ice, the MLB's Extra Innings and the NBA's League Pass, but also new sports programming such as soccer that has been added this year (*see* MLS/ESPN SHOOTOUT,

(continued...)

and movies,¹⁹⁴ are also cited as reasons for consumers choosing one of the DBS services.¹⁹⁵ However, DBS's advantages may be minimized once cable systems install digital technology and can offer comparable programming features.¹⁹⁶

57. Among consumers' main concerns regarding DBS are (a) multiple pricing strategies for hardware and programming, (b) the inability to receive local broadcast stations, and (c) the need to purchase additional equipment to receive programming on additional television sets.¹⁹⁷ A May 1997 study by USSB of 11,320 consumers found that 600 of those surveyed had shopped "recently" for digital satellite system, and 70% of those did not buy the service,¹⁹⁸ which may, in part, explain the lowered projections for new subscribers.¹⁹⁹ A recent study reports that only 68 of 647 cable subscribers surveyed indicated that they were "very likely" to switch to DBS.²⁰⁰

¹⁹³(...continued)

<<<http://www.directv.com/programming/compare.html>>>). The NFL's Sunday Ticket is only carried by DIRECTV. DIRECTV, Inc. Comments, *Programming Lineup*; Primestar website at <<http://www.primestar.com/ezget/news/articles/facts/65new.htm>>. Primestar is also marketing special "niche" sporting events like rodeos and NASCAR auto races (see *DTH Game Plan for Sports, Services Use Packages, Channels to Secure Attractive Subscriber Base*, SkyREPORT, Aug. 1997 at 1-3). Furthermore, as a continuing part of its emphasis on sports programming, DIRECTV has created a magazine called *ON - Official Magazine of DIRECTV Sports* for subscribers who take its Total Choice Gold, Total Choice Platinum or other collegiate or professional sports programming packages (Ted Hearn, *DIRECTV Seeking FCC Nod for Six New Satellites*, Multichannel News, June 30, 1997 at 24; the magazine will feature sports articles and provide sports program listings).

¹⁹⁴Movies are another program offering which attracts subscribers to DBS. USSB advertises itself as the DBS service with the most movie channels, its way of distinguishing itself from its DBS competitors (USSB webpage @www.USSB.com). USSB's movie channels include premium and multiplex movie channels HBO 1-5 and Showtime 1-4 as well as The Movie Channel, Cinemax, and FLIX (see DIRECTV, Inc. Comments, *Programming Lineup*; Primestar website at <<http://www.primestar.com/ezget/news/articles/facts/65new.htm>>; Dennis H. Leibowitz et al., *Satellite Industry Conference, USSB*, Donaldson, Lufkin & Jenrette, Aug. 1997, at 17, 18. See, e.g., *USSB Channels*, <<<http://www.ussbtv.com/channel/content/content.html>>>).

¹⁹⁵*Beyond Video, DIRECTV & DISH Say They'll Have New Interactive Services by Christmas*, SkyREPORT, Jul. 1997, at 3.

¹⁹⁶See, e.g., Video Week, Warren Publishing, August 4, 1997 at 4.

¹⁹⁷Video Week, Warren Publishing, August 4, 1997 at 4.

¹⁹⁸*Id.*

¹⁹⁹See para. 55 *supra*.

²⁰⁰Chilton Research Services Survey conducted August 11-15, 1997, as reported in *Cablevision*, Sept. 22, 1997 at 71.

58. Impediments to carriage of local broadcast signals by DBS services reduce the satellite services' ability to compete effectively with cable television.²⁰¹ However, the DBS industry is working on at least a partial solution to this situation, and is developing antennas to improve over-the-air broadcast transmission reception for DBS subscribers. Also, the launch of Echostar III and IV, will increase channel capacity and, according to Echostar, facilitate the possibility of retransmission of local channels to some of Echostar's markets.²⁰² Capitol Broadcasting Company, Inc. ("Capitol") has announced its "Local TV on Satellite" plan for retransmitting local signals by satellite.²⁰³ Capitol states that it will operate a satellite in the Ka-band with 61 spotbeams that will cover the continental United States, Alaska and Hawaii.²⁰⁴ Capitol intends to offer DBS providers a local station package of all over-the-air, full power, commercial television stations within a given station's designated market area.²⁰⁵

59. The "upfront costs" to subscribers that DBS operators may charge are an additional disincentive for some consumers considering DBS service.²⁰⁶ The costs for the basic equipment, installation, and one month of programming range from \$185 for Primestar service, where the consumer rents equipment, up to \$379 for DIRECTV's service.²⁰⁷ There may also be a \$300 cost for the additional integrated reception device ("IRD") antenna that is required in order to view different channels on other televisions in the household

²⁰¹SBCA Comments at 19; NRTC Comments at 12-13; Primetime24 Comments at 2; Heather Fleming, *Sky Goes to Capital Hill for Quick Copyright Fix*, *Broadcasting & Cable*, Mar. 17, 1997 at 35; Rick Westerman *et al.*, *Direct Broadcast Satellite*, *UBS Securities*, Mar. 4, 1997, at 7; DBS subscribers can only obtain local broadcast signals using conventional over-the-air antennas or through basic cable subscriptions. According to one consumer survey, more than 87% of those surveyed cited the inability to receive local stations as major reason for not buying a DBS system, and 60% cited the need for additional equipment in order to receive programming on other television sets in the household (Video Week, Warren Publishing, August 4, 1997, at 4).

²⁰²See Dennis H. Leibowitz *et al.*, *Satellite Industry Conference*, Donaldson, Lufkin & Jenrette, Aug. 1997, at 12-13. For example, Emerson advertises its "Dishmate UHF/VHF Antenna" as designed specifically to function with the DBS antenna (*My TV Reception Is So Clear, You'd Think I had a 50-foot Antenna on My Roof*, Advertisement in the New York Times Magazine, Aug. 31, 1997, at 63). Echostar has recently introduced a more technically sophisticated dish receiver which can integrate off-air broadcast signals with the satellite transmission, eliminating the separate A/B switch mechanism (Kent Gibbons *et al.*, *Future is Near for PrimeStar Service*, *Multichannel News*, July 28, 1997, at 7; Tammy J. Fluette, *A Decade of Difference, SBCA Celebrates Ten Years of Service*, *Private Cable & Wireless Cable*, Sept. 1997, at 40).

²⁰³See Statement of Capitol Broadcasting Company, Inc., before the Subcommittee on Courts and Intellectual Property of the Committee on the Judiciary, U.S. House of Representatives, Hearing on the Copyright Licensing Regimes Covering Retransmission of Broadcast Signals License (Oct. 30, 1997).

²⁰⁴*Id.*

²⁰⁵*Id.*

²⁰⁶Bruskin & Goldring Research, *DTH Barriers to Purchase Study, Wave III*, SBCA, June 1997, at 33.

²⁰⁷Primestar's cost includes \$150 for professional installation and monthly charges of \$34.99 for the programming package, \$10 of which is the equipment rental. DIRECTV's cost includes \$199 equipment, \$150 professional installation and monthly charges of \$29.99 for the basic programming package. See Table C-3.

and an additional basic programming package for \$5 per month per television.²⁰⁸ Industry observers expect the cost of IRDs to decline. This decline, however, may be offset by continued monthly charges for service to additional televisions in the household.²⁰⁹

60. To overcome the "upfront costs," DBS providers also have developed a number of discount programs and equipment plans to increase demand for their programming services. In the *1996 Report*, we noted that the prices charged for digital satellite system ("DSS") equipment used to receive programming from DIRECTV, USSB and Echostar declined, with the price of the basic mode DBS antenna dropping to just \$199 in some cases,²¹⁰ as also noted in Table C-3 of this report. This decline has continued. Discount retailers, such as WalMart, are selling equipment for \$49 and some mail order firms are offering the equipment for as little as \$25.²¹¹ In June 1997, Echostar dropped its requirement that new subscribers pay the \$300 annual programming fee in advance to purchase the \$199 DBS receiver and other equipment. Some DBS customers can now buy programming on a month-to-month basis.²¹² Echostar also plans to introduce a \$129 "no frills" second-set receiver, and will provide customers with self-installation kits or offer \$100 off the professional installation charge.²¹³ In July 1997, DIRECTV eliminated its pre-paid programming requirement, but dropped its \$200 equipment rebate.²¹⁴ To attract new customers, DIRECTV offered a 50% discount off the \$159 price for NFL Sunday Ticket to new subscribers.²¹⁵ *Video Magazine* subscribers could buy a six-month subscription to DIRECTV's Total Choice Platinum programming package by October 15, 1997, and be eligible for the free equipment offer.²¹⁶ Thomson Consumer Electronics, maker of the RCA DSS equipment, offered its own promotion, giving anyone who buys an RCA large-screen television the DSS equipment for free.²¹⁷ Primestar

²⁰⁸An IRD antenna can provide multiple channels of satellite programming to 2-3 sets simultaneously. An additional IRD antenna is needed to provide multiple channels of satellite programming to 4-5 sets simultaneously.

²⁰⁹Richard Bilotti *et al.*, *Telecommunications, Cable Television, Multichannel Metamorphosis II, Digital Derby-Rounding Turn #1*, Morgan Stanley, Apr. 25, 1997, at 8, 12; Jimmy Schaeffler, *The State of DBS: Circa July, 1997*, Private Cable & Wireless Cable, July 1997, at 18.

²¹⁰1996 Report, 12 FCC Rcd at 4382 ¶ 43.

²¹¹*Retailers Cheer Exit of \$200 DSS Rebate, But Establishments Wait for DIRECTV's Next Move*, SkyREPORT, July 1997, at 10-11.

²¹²*Inside the Industry*, SkyREPORT, June 1997, at 11; *Satellite and International*, Comm. Daily, May 19, 1997.

²¹³Kent Gibbons *et al.*, *Future is Near for PrimeStar Service*, Multichannel News, July 28, 1997, at 76.

²¹⁴*Beyond Video, DIRECTV & DISH Say They'll Have New Interactive Services by Christmas*, SkyREPORT, July 1997, at 3. DIRECTV's DSS equipment manufacturers sponsored the \$200 rebate to compete with ECHOSTAR's \$199 equipment offer. *Satellite and International*, Comm. Daily, May 19, 1997.

²¹⁵DIRECTV Homepage at <<www.DIRECTV.com/>

²¹⁶*DIRECTV Expands Free DSS Equipment*, Multichannel News, Sept. 8, 1997, at 14.

²¹⁷*Id.*

announced a discount on installation and one month of free programming this fall.²¹⁸ In addition to offering discounted equipment and programming prices, DBS providers are heavily marketing their services.²¹⁹ The four DBS companies were expected to spend approximately \$1 billion (including the cost of discounts) to promote their products in 1997.²²⁰

61. Consumers can purchase DBS equipment from various sources, including electronics retailers, and individual DBS operators' toll free numbers and Web sites.²²¹ Primestar also offers consumers the option of renting, rather than purchasing, equipment. Consumers can choose to install the equipment themselves, or can contact the DBS provider or an electrician to perform the installation.²²² DBS programming service can generally be purchased from an authorized dealer such as Best Buy, Circuit City and WalMart, or can be purchased directly from the DBS provider.

62. *Marketing Telecommunications with Information Services.* In the *1996 Report*, we indicated a trend toward marketing satellite video programming with telecommunications and information services.²²³ Results of this trend are mixed. For part of 1997, AT&T was marketing DIRECTV/USSB's satellite programming and equipment with its long-distance services. In December 1997, AT&T sold its interest in DIRECTV, stating that it was difficult to sell a relatively "big-ticket" item such as satellite equipment through telephone solicitations, and that it faced faster than expected reductions in DBS prices due to increased competition from other providers.²²⁴ However, Cincinnati Bell experienced a strong response to its DIRECTV sales campaign when it added a 36 month no-interest equipment purchase plan. Recently, Bell Atlantic and DIRECTV announced an agreement to market DIRECTV to Bell Atlantic's customers in the Northeast. Industry observers predict DBS may provide the means for Bell Atlantic to offer video programming quickly in its newly expanded northeastern territory.²²⁵

63. DBS providers have announced plans to launch various new video and data access products. DIRECTV plans to develop a satellite-delivered PC-based video programming and Internet service

²¹⁸Kent Gibbons et al., *Future is Near for PrimeStar*, Multichannel News, July 28, 1997, at 1, 76.

²¹⁹Already DSS retailers can track DSS and DIRECTV sales data through the Electronic Activation Software (EAS) program, launched in Jan. 1997; Jimmy Schaeffler, *The State of DBS: Circa July, 1997*, Private Cable & Wireless Cable, July 1997, at 18; *Satellite and International*, Comm. Daily, Mar. 26, 1997.

²²⁰Jimmy Schaeffler, *The State of DBS: Circa July, 1997*, Private Cable & Wireless Cable, July 1997, at 17.

²²¹See Table C-3 for a listing of equipment sources for the four DBS firms.

²²²Primestar requires that subscribers that rent equipment must have the equipment professionally installed.

²²³*1996 Report*, 12 FCC Rcd at 4383 ¶ 45.

²²⁴*AT&T Sells Back 2.5% Stake in DIRECTV for \$162 Million*, Comm. Daily, Dec. 9, 1997.

²²⁵Kent Gibbons, *Can Telco Ring DBS Bells That AT&T Couldn't?* Multichannel News, July 7, 1997, at 3, 47. As a result of the recent merger between Bell Atlantic and NYNEX, Bell Atlantic has added to its service territory the area formerly served by NYNEX (see *In the Applications of NYNEX Corporation and Bell Atlantic Corporation for Consent to Transfer Control of NYNEX Corporation and its Subsidiaries*, File No. NSD-L-96-10, Memorandum Opinion and Order (rel. Aug. 14, 1997)).

("DIRECPC"), with a telephone return path.²²⁶ Hughes Network Systems ("Hughes"), DIRECTV's affiliate, is retailing the DIRECPC's Internet service through consumer electronics stores to compete with the cable industry's deployment of high speed cable modems.²²⁷ In addition, Hughes recently announced the launch of DIRECDUO, a dual-functioning DBS antenna, which consumers can use to receive both DIRECTV video programming and DIRECPC Internet and interactive data access services.²²⁸ Echostar plans to launch interactive services by the end of this year,²²⁹ and is working with content providers CNN, MTV, ESPN, and Bloomberg Information TV to supply programming.²³⁰ Echostar also plans to carry Data Broadcasting Corp.'s Signal real-time quote service, which provides data directly from the equity, futures and options exchanges to the user's personal computer.²³¹ In 1998, Echostar plans to add late night broadcasts of Internet content by satellite to interactive set-top boxes for morning access.²³²

64. Information technology companies are developing products for the DBS market. For example, Adaptec has developed software that gives DTH customers access to financial data, games and videos through their dish antenna, using a telephone "return path."²³³ Microsoft will incorporate a DIRECTV interactive link in its Windows 98 software.²³⁴

65. *Recent Developments* Primestar began transmitting its programming from a new, GE2 satellite in April 1997, which enables Primestar to increase its service from 95 to 160 medium-powered channels.²³⁵ In June 1997, MCI agreed to assign the authorization for ASkyB's high-power DBS service at

²²⁶DIRECTV Comments at 12.

²²⁷*DirecPC: Out of the Closet*, SkyREPORT, July 1997, at 4.

²²⁸DIRECTV, Inc. Comments at 12; *DirecPC: Out of the Closet*, SkyREPORT, July 1997, at 4.

²²⁹*Beyond Video, DIRECTV & DISH Say They'll Have New Interactive Services by Christmas*, SkyREPORT, July 1997, at 3.

²³⁰*Id.*

²³¹*EchoStar to Carry Signal*, Private Cable & Wireless Cable, Sept. 1997, at 45.

²³²*Beyond Video, DIRECTV & DISH Say They'll Have New Interactive Services by Christmas*, SkyREPORT, July 1997, at 3. The set-top boxes will feature a filter mechanism which scans content for information based on customer zip codes.

²³³*Id.*; Jimmy Schaeffler, *The State of DBS: Circa July, 1997*, Private Cable & Wireless Cable, July 1997, at 15. DBS providers even anticipate integrating their services with standard household utilities like lighting.

²³⁴*A Very Good Month...*, SkyREPORT, July 1997, at 13.

²³⁵*Headendings, Primestar Makes "Big Switch,"* Broadcasting & Cable, Apr. 28, 1997 at 43; Alan Breznick *et al.*, *Primestar Packing More Program Punch*, Cable World, Mar. 3, 1997, at 1, 44. The additional channels will feature ten regionalized weather channels from MSNBC Weather, eight regional sports channels, 20 pay-per-view channels, two Showtime channels, American Movie Classics, Court TV and several other networks.

110° west latitude and two satellites to Primestar.²³⁶ Primestar has announced plans to use the 110° west latitude position to offer a 225 channel service in 1998.²³⁷ Consummation of the agreement is subject to Commission approval. The parties have filed applications with the Commission, and a number of parties have filed objections to the applications.

66. Echostar plans to expand its services by offering more channels with the launch of two more satellites. EchoStar III was launched in October 1997 to provide service at 61.5° west latitude. EchoStar IV's launch is planned for September 1998.²³⁸ As noted in paragraph 58 above, this expansion may facilitate retransmission of local broadcast channels to some of Echostar's markets.

67. *Other DBS Entrants.* Continental Satellite Corporation ("Continental"), and Dominion Video Satellite, Inc. ("Dominion") each hold licenses but have not launched any satellites. Tempo launched a satellite in March 1996 at 119° west latitude and is authorized to provide 11 channels of service from that position and a second orbital location at 166° west latitude (a total of 22 transponders);²³⁹ Continental is authorized to provide 11 channels of service from 61.5° and 166° west latitude (a total of 22 transponders); and Dominion is authorized to provide eight channels of service from 61.5° and has an application pending to provide eight channels of service at 166° west latitude (a total of 16 transponders).²⁴⁰ Of the three, only Tempo's 11 transponders at 119 west latitude are positioned at a full continental United States view ("CONUS") slot.²⁴¹ In addition, the Commission has authorized Televisa International, LLC., to operate one million receive-only earth stations in the United States to receive DTH-FSS television services from Mexico's Solidaridad II satellite operating at 113° west latitude, signaling the first stages of direct competition for the United States DTH market from foreign companies.²⁴²

²³⁶Primestar is a joint venture of TCI Satellite Inc. ("TSAT"), Time Warner, Cox Enterprises, Comcast, MediaOne and GE American Corporation. Prior to reaching this agreement with Primestar, MCI had entered into an agreement with News Corporation to form a joint venture, known as American Sky Broadcasting ("ASkyB"), to provide service using this authorization.

²³⁷*Headendings, Primestar Makes "Big Switch,"* Broadcasting & Cable, Apr. 28, 1997 at 43; Alan Breznick et al., *Primestar Packing More Program Punch,* Cable World, Mar. 3, 1997, at 1, 44.

²³⁸Rick Westerman and Edward T. Hatch, *Direct Broadcast Satellite, Outlook,* UBS Securities LLC, Mar. 4, 1997, at 10-11.

²³⁹Tempo is a wholly owned subsidiary of TCI Satellite Entertainment. See Rick Westerman and Edward T. Hatch, "Table 3: DBS Industry Licensed Number of Transponders," *Direct Broadcast Satellite, Outlook,* UBS Securities, Mar. 4, 1997, at 9.

²⁴⁰See Table C-1.

²⁴¹Rick Westerman and Edward T. Hatch, "Table 3: DBS Industry Licensed Number of Transponders," *Direct Broadcast Satellite, Outlook,* UBS Securities, Mar. 4, 1997, at 9. "CONUS" indicates that the signal transmissions from satellites in these orbital slots are capable of reaching all parts of the United States.

²⁴²See *In the Matter of Televisa International, LLC., Application for Blanket License for Receive-Only Earth Stations in the Fixed Satellite Service for Direct-to-Home Subscription Television Service,* File No. 330-DSE-L-97, Call Sign E970096, Order and Authorization, DA 97-1758 (rel. Aug. 18, 1997).

C. Home Satellite Dishes

68. *Programming.* Unlike DBS and Primestar subscribers, home satellite dish ("HSD") subscribers must employ relatively large (4 to 8 foot) dishes and must often purchase programming through program packagers that are licensed by programmers to facilitate subscribers' receipt of programming transmitted from various C-band satellites.²⁴³ Typically designed to receive programming from satellites at several different orbital locations, most HSDs include motors that permit the receiving dishes to rotate and receive signals from more than one satellite. HSD owners have access to 500 channels of programming on C-band satellites, of which 350 channels are scrambled and approximately 150 are unscrambled.²⁴⁴ HSD owners can watch the unscrambled channels without paying a subscription fee, subject to section 705(b) of the Communications Act.²⁴⁵ To receive scrambled channels, an HSD owner must purchase an IRD from an equipment dealer and pay a subscription fee to an HSD programming packager. Nationwide, approximately 20 to 25 HSD program packagers assemble programming from individual program services which they make available in packages ("one-stop shop") to subscribers.²⁴⁶ Like DBS systems, however, HSD program packagers do not provide local broadcast signals.

69. *Subscribership.* As the Commission has reported in previous years, it is difficult to obtain accurate estimates of the total number of HSD users, which include: (a) viewers who subscribe to a packaged programming service that affords them access to most of the same programming provided to subscribers of other MVPDs; (b) viewers who receive satellite programming services illegally without subscribing; and (c) viewers who receive only non-subscription programming. Industry analysts estimate that there are approximately 3.8 to 4 million HSD users.²⁴⁷ The number of subscribers most relevant to an assessment of the MVPD market is the figure for authorized subscribers who receive much of the same programming generally provided to cable and other MVPD subscribers. HSD package programming subscribership has declined by 93,290, or 4.1%, from 2,277,760 reported in December 1996 to 2,184,470 subscribers reported on June 30, 1997.²⁴⁸ According to one report, sales of HSDs fell to below 200,000 last year from 642,000 in 1994.²⁴⁹

70. Much of the decline in HSD subscribership results from owners switching to DBS services in order to receive digital programming.²⁵⁰ Not only have DBS equipment prices become less expensive than

²⁴³SBCA Comments at 6.

²⁴⁴Telephone interview with Harry W. Thibedeau, Manager of Industry Affairs, SBCA (Sept. 27, 1997).

²⁴⁵See 47 U.S.C. § 605(b) (satellite cable programming for private viewing).

²⁴⁶SBCA Comments at 6-7.

²⁴⁷Telephone interview with Harry W. Thibedeau, Manager of Industry Affairs, SBCA (Sept. 27, 1997).

²⁴⁸See Table E-1.

²⁴⁹Jeff Bailey, *Air Waves*, Wall Street Journal, Oct. 15, 1997, at A1.

²⁵⁰SBCA Comments at 6.

the typical HSD equipment,²⁵¹ but DBS firms like DIRECTV have launched aggressive advertising and promotional campaigns encouraging consumers to switch to DBS service.²⁵² Responding to consumers preference for digital programming, HSD provider General Instrument has introduced a digital receiver, the 4DTV, capable of receiving both digital and analog signals for HSD subscribers who want to upgrade their HSD systems to receive digital quality pictures.²⁵³ However, there are reports of delays in getting the 4DTV equipment, and some program packagers do not yet have access to programming for the digital equipment, though negotiations between programmers and programming packagers are currently underway.²⁵⁴ These concerns may be diminishing as at least one program provider recently announced that it is adding several digital channels of programming for HSD subscribers with the 4DTV receiver.²⁵⁵

D. Wireless Cable Systems

1. Multichannel Multipoint Distribution Service

71. MMDS systems, often referred to as "wireless cable," transmit programming to subscribers through 2 GHz microwave frequencies, using Multipoint Distribution Service ("MDS") and leased excess capacity on Instructional Television Fixed Service ("ITFS") channels.²⁵⁶ An MMDS system's transmission range is dependent upon the transmitter's power, the kind of receiving antenna, and the presence of a line-of-sight ("LOS")²⁵⁷ path between the transmitter or signal booster and the receiving antenna.²⁵⁸ MMDS operators

²⁵¹See Table C-3; Bruskin & Goldring Research, Home Satellite Dish Owner Survey for SCBA, Mar. 1997 at 15.

²⁵²*Satellite and International*, Comm. Daily, Aug. 26, 1997. For example, DIRECTV's campaign, "DIRECTV Delivers," offers free DSS equipment and programming packages to commercial HSD subscribers through November 30 of this year.

²⁵³*4DTV's Slow Trip to Store Shelves, Some Dealers Have a Lot of It, Some Keep Waiting for Product*, SkyREPORT, Jun. 1997 at 10; GI Comments at 2.

²⁵⁴*4DTV's Slow Trip to Store Shelves, Some Dealers Have a Lot of It, Some Keep Waiting for Product*, SkyREPORT, Jun. 1997 at 10-11.

²⁵⁵*Programming, HBO Delivers to C-Band Market*, Private Cable & Wireless Cable, Sep. 1997, at 44. HBO will add 16 digital channels of its MultiChannel HBO and Cinemax programming.

²⁵⁶*Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act - Competitive Bidding*, MM Dkt. No. 94-131 and PP Dkt. No. 93-253, Report and Order ("*MDS Auction Order*"), 10 FCC Rcd at 9589, 9593 ¶ 7 (1995); *1996 Report*, 12 FCC Rcd at 4386 ¶ 51 n.152.

²⁵⁷"Line-of-sight" refers to the "straight eyesight line between two locations, often between a radio frequency receiver (MMDS antenna) and radio frequency (MMDS) transmitter." Glenn R. Jones, *Jones Cable Television and Information Infrastructure Dictionary*, Englewood, CO: Jones International, Inc., 1994, at 115.

²⁵⁸*MDS Auction Order*, 10 FCC Rcd at 9593 ¶ 6.

have a maximum of 33 microwave channels available in each market, including 13 MDS channels and 20 ITFS channels.²⁵⁹

72. The Commission authorized digital MMDS use in July 1996.²⁶⁰ Digital compression permits MMDS operators to provide six or more digital channels of programming, with an increased range of service, on what was previously a single analog channel.²⁶¹ In addition to increased channel capacity,²⁶² digital technology is expected to improve picture and audio quality,²⁶³ and to permit two-way data transmission services.²⁶⁴ The Commission has also proposed to amend its rules to facilitate the ability of MMDS operators to provide two-way transmission of Internet and other digital high-speed data services that may further enhance the competitiveness of wireless cable with other MVPDs.²⁶⁵ However, implementation of digital MMDS technology has been slow because of technical and financial considerations.²⁶⁶

73. *MMDS Service Areas.* There were an estimated 252 MMDS systems in operation in July 1997²⁶⁷ compared to the estimated 200 MMDS systems serving 900,000 subscribers in July 1996.²⁶⁸ The

²⁵⁹*Id.* ¶¶ 6-7.

²⁶⁰*Request for Declaratory Ruling on the Use of Digital Modulation by Multipoint Distribution Service and Instructional Fixed Service Stations*, DA 95-1854, Declaratory Ruling and Order ("*Digital Declaratory Ruling*"), 11 FCC Rcd 18839 (1996), *petitions for clarification and partial recon. pending*; *1996 Report*, 12 FCC Rcd at 4386 ¶ 51.

²⁶¹*Digital Declaratory Ruling*, 11 FCC Rcd at 18842 ¶ 5 n.11. Digital compression allows the transmission of several digital programs in the bandwidth required to transmit a single analog program, although the number of digital channels which can be accommodated by the bandwidth of a single analog channel varies with the digital bandwidth demands of the specific programming. At a six to one ratio, 198 digital channels could be delivered using the bandwidth allocated to the 33 MMDS analog channels.

²⁶²Joe Schlosser, *Pac Bell's Low-Key Digital*, *Broadcasting & Cable*, Oct. 6, 1997, at 62. Digital compression will enable MMDS operators to offer additional programming features such as numerous pay-per-view channels to their subscribers.

²⁶³Andrew Kreig, *Insider, Dawn of Digital*, *Private Cable & Wireless Cable*, June 1997, at 94; *Digital Declaratory Ruling*, 11 FCC Rcd at 18842 ¶ 5.

²⁶⁴*Amendment of Parts 1, 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Two-Way Transmissions*, MM Dkt. No. 92-217, Notice of Proposed Rulemaking ("*Two-Way NPRM*"), FCC 97-360 (rel. Oct. 10, 1997), *summarized at* 62 Fed. Reg. 60025 (Nov. 6, 1997); *1996 Report*, 12 FCC Rcd at 4392-4393 ¶ 64.

²⁶⁵*Two-Way NPRM* ¶¶ 1-2.

²⁶⁶WCAI Comments at 8; K. C. Neel, *Where's Wireless Cable? Very Up in the Air*, *Cable World*, June 2, 1997, at 1, 46; BellSouth Comments at 8; *Strategic Direction*, People's Choice TV Corp., SEC Filing, June 30, 1997 (filed Aug. 13, 1997), at 1; *1996 Report*, 12 FCC Rcd at 4391-4392 ¶¶ 62-63.

²⁶⁷WCAI Comments at 8. The ten largest MMDS operators (by subscribers) are Heartland Wireless Communications, Inc. (194,100), AmericanTelecasting, Inc. (141,600), Wireless One (114,200), People's Choice (continued...)

Commission awarded MMDS license rights to 493 Basic Trading Areas ("BTAs") in auctions completed in March 1996, and subsequently authorized auction winners to provide MMDS service in 465 of these BTAs.²⁶⁹ The MMDS auctions were designed to distribute unused spectrum through competitive bidding while protecting the service area of incumbent MMDS providers within the BTAs.²⁷⁰

74. *MMDS Capacity to Serve Television Households.* The potential commercialization of digital MMDS technology noted in the *1996 Report*²⁷¹ has proceeded slowly. This has tended to limit MMDS operators' significance as alternative sources of MVPD services. The number of homes with a serviceable line of sight to an MMDS operator's transmission facilities grew from 58,900,000 at the end of 1995 to 60,300,000 at the end of 1996, an increase of 2.4%, and remained unchanged through the end of the first half of 1997.²⁷²

²⁶⁷(...continued)

TV (75,200), Wireless Broadcasting Systems of America (69,000), CAI Wireless Systems, Inc. (65,700), CS Wireless Systems, Inc. (46,860), Pacific Bell Video Services - Pacific Telesis Group (56,000), BellSouth Wireless Cable, Inc. (33,500), and Videotron/Wireless Holdings (21,000). *Top 10 Wireless Cable MSOs*, WCAI Facsimile, Nov. 14, 1997.

²⁶⁸*1996 Report*, 12 FCC Rcd at 4388 ¶ 54 n.166.

²⁶⁹*MDS Auction Order*, 10 FCC Rcd at 9608 ¶¶ 34-35. BTAs vary in size and shape and typically include a population center (city or large town) and the surrounding rural area. *See also 1996 Report*, 12 FCC Rcd at 4387 ¶ 52.

²⁷⁰*MMDS Auction Order*, 10 FCC Rcd at 9591 ¶¶ 1-2, recon., Memorandum and Order on Reconsideration, 10 FCC Rcd 13821 (1995). Under the post-auction licensing plan, a BTA authorization is granted to the auction winner for the entire BTA, and separate conditional station licenses are awarded for each single channel or channel group at each site location within the BTA. The BTA authorization holder is able to construct facilities over any vacant MDS channels within its BTA, provided its engineering design meets the Commission's interference protection standards. To date, the Commission has processed over 700 applications for individual MMDS stations within the BTAs. In 1996, the Gulf Coast MDS Service Company petitioned the Commission to recognize the Gulf of Mexico as an additional MMDS service area and to hold an auction to license MDS service there. *See* Petition for Rulemaking, MM Dkt. No. 94-131 and PP Dkt. No. 93-253 filed by Gulf Coast MDS Service Company, May 21, 1996.

²⁷¹*Digital Declaratory Ruling*, 11 FCC Rcd at 18840, 18842-18843 ¶¶ 1-2, 5-6; *1996 Report*, 12 FCC Rcd at 4386, 4391-4392 ¶¶ 51, 62. The Commission authorized digital MMDS use in July 1996.

²⁷²*Id.*; Paul Kagan Associates, Inc., *Wireless Cable Sub Count and Revenue Projections, 1996-2000*, Wireless Cable Investor, Dec. 31, 1996, at 10-11; Telephone interview with Andrew Kreig, President, Wireless Cable Association, Nov. 13, 1997. MMDS has developed primarily in large and medium-sized cities. MMDS systems also serve many smaller communities in the western states. The transmission range depends upon the transmitter power, the type of receiving antenna, and the presence of a line-of-sight path between the transmitter or signal booster and the receiving antenna. *MDS Auction Order*, 10 FCC Rcd at 9593-9594 ¶¶ 7, 9. MMDS operators' technical ability to increase the number of homes seen by MMDS signals within their licensed areas is limited in part by the time consumed in siting MMDS transmission facilities, although in many circumstances this may be accomplished with relative speed. *Digital Declaratory Ruling*, 11 FCC Rcd 18853 at ¶ 23; *Amendment of Parts 21, 43, 74, 78, and 94 of the Commission's Rules Governing Use of the Frequencies in the 2.1 and 2.5 GHz Bands Affecting: Private Operational-Fixed Microwave Service, Multipoint Distribution Service, Multichannel*

(continued...)

The number of homes capable of receiving an MMDS operator's signal (commonly referred to as "homes seen") grew from 29,200,000 at the end of 1995 to 31,500,000 at the end of 1996, an increase of 7.8%, but it has remained unchanged through the end of the first half of 1997.²⁷³ The proportion of television homes seen by MMDS increased from 30.4% at the end of 1995 to 32.5% at the end of 1996, and remained unchanged, at 32.5%, through the end of June 1997.²⁷⁴ These measures show MMDS operators' capacity to serve television households lags behind cable and DBS operators' capacity to serve those homes.²⁷⁵

75. *Subscribership and Capacity Usage.* MMDS subscribership grew from 851,000 at the end of 1995 to 1,180,000 at the end of 1996, an increase of 38.6%, and declined to 1,100,000 at the end of June 1997, a decrease of 6.8%.²⁷⁶ MMDS penetration (the proportion of homes seen that actually subscribe) increased from 2.9% at the end of 1995 to 3.7% at the end of 1996, and decreased to 3.5% at the end of June 1997. Decreases in the number of MMDS subscribers and lack of growth in the number of homes seen by MMDS appear to result in part from MMDS operators' suspension of analog MMDS marketing in some markets in anticipation of the availability of digital MMDS transmission and reception equipment (thus allowing operators to avoid the expense of deploying analog MMDS reception equipment which operators may then be required to replace upon commencing digital transmission).²⁷⁷ The MMDS industry expects this trend

²⁷²(...continued)

Multipoint Distribution Service, Instructional Television-Fixed Service, and Cable Television Relay Service, Report and Order ("Wireless Cable Order"), 5 FCC Rcd at 6410, 6422 ¶¶ 75-76 (1990). Various obstructions, e.g., topography, foliage, tall buildings and other man-made features, also have restricted the potential deployment of MMDS systems, although digital technology tends to improve reception. *Wireless Cable Order*, 5 FCC Rcd at 6418, 6422 ¶¶ 50, 78; *Digital Declaratory Ruling*, 11 FCC Rcd at 18842 ¶ 5.

²⁷³Paul Kagan Associates, Inc., *Wireless Cable Sub Count and Revenue Projections, 1996-2000*, Wireless Cable Investor, Dec. 31, 1996, at 10-11; Telephone interview with Andrew Kreig, President, Wireless Cable Association, Nov. 13, 1997. The difference between the number of homes with a serviceable line of sight and the number of homes seen is due to the presence of buildings, terrain, and foliage that may tend to obstruct MMDS signals and prevent many homes from being able to receive the MMDS signals.

²⁷⁴See Table E-1.

²⁷⁵See paras. 14-15 and 54-55 *supra* for capacity data for cable and DBS operators, respectively.

²⁷⁶WCAI Comments at 8; Table E-1.

²⁷⁷See, e.g., WCAI Comments at 8; K. C. Neel, *Where's Wireless Cable? Very Up in the Air*, Cable World, June 2, 1997, at 1, 46. For example, People's Choice TV Corp. notes in its SEC Filing that this year "the Company's strategy is to conserve capital pending the implementation of digital video compression technology." *SEC Filing, 10-Q*, People's Choice TV Corp., June 30, 1997 (filed Aug. 13, 1997) at 1.

to reverse itself when a number of the larger MMDS operators begin to launch digital wireless cable systems.²⁷⁸

76. *Financial Performance.* The wireless cable industry's total revenues for 1996 were \$420 million, a 38.8% increase from the \$303 million that the MMDS industry earned in 1995.²⁷⁹ The industry's negative cash flow position worsened, however, from negative \$3.9 million at the end of 1995 to negative \$40.5 million at the end of 1996.²⁸⁰ MMDS operators have had difficulty raising capital, in part because MMDS stock prices have generally declined in 1997.²⁸¹

77. *Digital MMDS Services.* The introduction of digital MMDS technology should increase the ability of MMDS operators to compete better with cable systems. Digital technology, as noted above, increases channel capacity, thereby expanding potential programming features (e.g., a higher number of channels and more service offerings). Thus, digital technology will permit MMDS operators to provide additional programming features such as numerous pay-per-view channels to their subscribers.²⁸² Digital technology also improves the audio and video components of programming transmission, giving the viewer increased picture clarity and compact disc quality sound.²⁸³

78. *Internet and High-Speed Data Services.* In 1996, several MMDS companies began testing technology that would allow them to provide high-speed Internet access and other digital data services similar

²⁷⁸WCAI Comments at 8-9. Analysts have revised their forecasts to project MMDS subscribership in the range of 1.4 million to 3.7 million subscribers by 2002. See, e.g., Veronis, Suhler & Associates, Inc., *Subscribers to Subscription Video Services, Communications Industry Forecast*, 1997, at 156 (1.4 million); *Financial Benchmarks in the Cable TV Industry: 1997*, The Strategis Group, Aug. 1997, at 8 (3.7 million); Dennis H. Leibowitz et al., *U.S. Cable Television Industry, Multichannel Penetration Model*, Cable Industry Outlook '97, Donaldson, Lufkin & Jenrette, Apr. 17, 1997, at 6. These projections indicate slower MMDS subscriber growth than did the analyst projections current at the time of our last report. See *1996 Report*, 12 FCC Rcd at 4387-4388 ¶ 53. Uncertainties associated with the implementation of digital MMDS appear to limit the value of MMDS subscriber projections.

²⁷⁹Paul Kagan Associates, Inc., *Wireless Cable Sub. Count and Rev. Projections, 1996-2000*, Wireless Cable Investor, Dec. 31, 1996, at 11; *Wireless Cable Industry Projections*, Wireless Cable Investor, Jan. 31, 1996, at 3.

²⁸⁰*Id.* For a description of cash flow calculations, see para. 25 *supra*.

²⁸¹John M. Higgins, *Wireless Operators Scale Back*, Broadcasting & Cable, Sept. 22, 1997, at 63; Paul Kagan Associates, Inc., *Wireless Cable Investor*, Sep. 30, 1997, at 1, 12. For example, the Sept. 30, 1997 closing stock prices for six of the nine companies in Paul Kagan Associates, Inc.'s "Wireless Cable Average" were below the stocks' closing prices for Dec. 31, 1996. These companies include Heartland Wireless, Wireless One, American Telecasting, People's Choice TV, Tel-Com Wireless Cable and TV Filme, Inc.

²⁸²Joe Schlosser, *Pac Bell's Low-Key Digital*, Broadcasting & Cable, Oct. 6, 1997, at 62.

²⁸³Andrew Kreig, *Insider, Dawn of Digital*, Private Cable & Wireless Cable, June 1997, at 94; *Digital Declaratory Ruling*, 11 FCC Rcd at 18842 ¶ 5.

to high-speed data services offered by other MVPDs.²⁸⁴ The Commission has proposed to amend its rules to allow MDS and ITFS licensees to provide two-way communications services in both service frequencies in response to a petition for rulemaking filed by a group of over 100 participants in the wireless cable industry.²⁸⁵ The proposed rulemaking is intended to facilitate the most efficient use of the affected spectrum, to enhance the competitiveness of the wireless cable industry, and to provide benefits to the educational community through the use of two-way services. Although the primary use of MDS and ITFS frequencies has historically been the provision of video services, through this rulemaking use of these frequencies could be made available for other services.²⁸⁶

2. Local Multipoint Distribution Service

79. LMDS is a technology that uses microwave channels in the 28 GHz band to deliver multichannel video programming as well as two-way voice and data service.²⁸⁷ With the exception of CellularVision's LMDS system in Brooklyn and Queens, New York, LMDS frequencies are not currently used to distribute video programming in the United States.²⁸⁸ Industry observers note that the LMDS industry is

²⁸⁴1996 Report, 12 FCC Rcd at 4392-4393 ¶ 64; Glenn Gamber, Hundt, CAI, *Educators Unveil School HSA Wireless Internet*, Spectrum, WCAI, May 1997, at 1, 3.

²⁸⁵*Two-Way NPRM* at ¶ 11. "Petitioners propose that [the Commission]...create a regulatory system authorizing the use of response stations and response station hubs to enable the two-way operation of wireless cable systems. Response stations would be the means of transmission from a subscriber's premises and could be implemented as separate transmitters or as parts of a transverter (combined transmitter and receiver) and could use either separate transmitting antennas for return paths or combined transmitting/receiving antennas. Response stations would serve as the collection points for signals from the response stations in a multipoint-to-point configuration for upstream signal flow." See also Petition for Rulemaking to Amend Parts 21 and 74 of the Commission's Rules to Enhance the Ability of Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions, RM 9060, filed Mar. 14, 1997.

²⁸⁶*Two-Way NPRM* at ¶ 2.

²⁸⁷*In the Matter of Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services*, CC Dkt. No. 92-297, First Report & Order and Fourth Notice of Proposed Rulemaking ("*First LMDS Order*"), 11 FCC Rcd at 19005, 19010-19011 ¶¶ 14-15 (1996). "[The LMDS hub]...receivers operate in small cells, typically six miles in diameter, which transmit to and receive transmissions from subscriber locations. Because the cells are small, and arranged in a typical cellular pattern, a very high level of frequency reuse is possible. This pattern, combined with the availability of broadband microwave spectrum, results in sufficient capacity in the proposed LMDS system designs [to] offer [sic] services that compete both with local exchange carriers in the provision of local exchange service, and with cable operators in the provision of video programming even in urban areas." *First LMDS Order*, 11 FCC Rcd at 19010-19011 ¶¶ 14-15.

²⁸⁸This operation was authorized by the Commission in 1991 on a waiver basis. *Hye Crest Management, Inc. (For License Authorization in the Point-to-Point Microwave Radio Service in 27.5-29.5 GHz Band and Request for Waiver of the Rules)*, File No. 10380-CF-P-88, Memorandum Opinion & Order, 6 FCC Rcd 332 (1991). Other applications for LMDS service were subsequently frozen by the Commission. *1996 Report*, 12 FCC Rcd at 4393-4394 ¶ 65.

moving towards the provision of numerous services, including video programming and two-way services like Internet access, high-speed data transmission and telephony.²⁸⁹

80. In July 1996, the Commission adopted a frequency band plan that allocated 1000 MHz of spectrum to LMDS and permitted LMDS systems, geostationary and non-geostationary Fixed Satellite Service ("FSS") systems, and feeder links for non-geostationary Mobile Satellite Service ("NGSO/MSS or Big LEO") systems to operate in the 28 GHz band.²⁹⁰ This action was intended to promote competition by permitting these various services to develop and offer consumer services such as video program distribution, two-way interactive video, teleconferencing, telemedicine, telecommuting and high-speed data services within the U.S. and internationally.²⁹¹

81. In the same order, the Commission proposed to allocate an additional 300 MHz of spectrum to LMDS at 31.0 - 31.3 GHz to provide greater technological flexibility for the industry.²⁹² However, the Commission's order prohibits cable companies and LECs from acquiring in-region LMDS licenses for three years. The order is currently under appeal.²⁹³ The Commission plans to auction this LMDS spectrum block in February 1998.²⁹⁴

E. Satellite Master Antenna Television Systems

82. SMATV systems are MVPDs that primarily serve MDUs.²⁹⁵ SMATV systems do not use public rights-of-way and, thus, fall outside of the Communications Act's definition of a cable system, and can operate without being subject to franchise requirements.²⁹⁶ SMATV providers receive and process satellite

²⁸⁹WCAI Comments at 2; Douglas Smith, *Connecting the World Without Wires*, Private Cable & Wireless Cable, June 1997, at 71.

²⁹⁰*First LMDS Order*, 11 FCC Rcd at 19007-19008 ¶¶ 2-5.

²⁹¹*Id.* at 19007 ¶ 3.

²⁹²*Id.* at 19043 ¶ 95.

²⁹³*United States Telephone Association v. FCC*, Case No. 97-1368 (D.C. Cir. May 20, 1997). The USTA also noted its disagreement with the decision to prohibit LEC acquisition of in-region LMDS licenses in its comment in this proceeding. See USTA Comments at 5-6.

²⁹⁴FCC Public Notice, LMDS Auction Postponed Until February 18, 1998, FCC Postpones Auction No. 17, DA 97-2352, Report No. AUC-97-17-C (Auction No. 17) (rel. Nov. 10, 1997); FCC Auction Notice, *Auction of Local Multipoint Distribution Service*, DA No. 97-2081, Auction Notice and Filing Requirements for 986 Basic Trading Area ("BTA") Licenses in the 28 GHz and 31 GHz bands, Scheduled for December 10, 1997, Report No. AUC-97-17-A (Auction No. 17) (rel. Sept. 25, 1997).

²⁹⁵ICTA Facsimile, Nov. 12, 1997, at ¶ 1.

²⁹⁶1996 Act sec. 301(a)(2), 47 U.S.C. §522(7). SMATV operators are subject to significantly less regulatory oversight than are traditional cable television operators and, as a consequence, have greater flexibility with respect to service area, service content and pricing. For example, private cable and SMATV operators: (a) are not

(continued...)

signals directly at an MDU or other private property with an on-site headend facility consisting of receivers, processors and modulators, and distribute the programming to individual units through an internal hard-wire system in the building. SMATV operators often recover the relatively high fixed costs of operations (headend equipment, management, customer service, billing, installation and maintenance) through exclusive service contracts with the MDU owner. Under the 1996 Act, SMATV operators may use wires to connect separately-owned buildings so long as the wires do not use public rights-of-way.²⁹⁷ This statutory change may permit significant SMATV system growth in areas where different owners' respective residential buildings can be interconnected without crossing public streets. Some SMATV systems have begun to use microwave transmissions to serve multiple buildings that are not commonly-owned without using public rights-of-way.²⁹⁸

83. SMATV systems have been the primary competitor to franchised cable systems for the MDU market. In 1991, regulatory changes made 18 GHz technology available for the point-to-point delivery of video programming services, thus permitting SMATV operators to enhance their systems and to become more efficient at the delivery of video programming to MDUs.²⁹⁹ Firms using 18 GHz technology are known as enhanced SMATV systems and do not require the large networks of coaxial or fiber optic cable and amplifiers that are used by traditional hard-wire cable television operators or the installation of a headend facility at each MDU as is required for earlier SMATV systems.³⁰⁰ Thus, SMATV operators using 18 GHz technology are able to provide services at attractive rates that make them competitive with franchised cable systems.³⁰¹

²⁹⁶(...continued)

required to obtain cable television franchises; (b) do not face regulatory constraints on the geographic areas in which they may offer video services; (c) do not pay franchise and Federal Communications Commission subscriber fees; (d) are not obligated to pass every resident in a given area; (e) are not subject to rate regulation; and (f) are not subject to must carry and local government access obligations.

²⁹⁷*Id.* Prior to the 1996 Act, to qualify for this exception the buildings had to be under common ownership, control or management.

²⁹⁸1996 Report, 12 FCC Rcd at 4404-4405 ¶ 82.

²⁹⁹Amendment of Part 94 of the Commission's Rules to Permit Private Video Distribution Systems of Video Entertainment Access to the 18 GHz Band, PR Dkt. No. 96-5, Report and Order ("18 GHz Order"), 6 FCC Rcd at 1270, 1275 n.11 (1991).

³⁰⁰18 GHz Order, 6 FCC Rcd at 1271-1272, 1275 n.11. Typically, an enhanced SMATV or private cable system operating in a stand-alone MDU requires an off-air antenna for receiving broadcast signals and two to three HSD or DBS antennas to receive satellite programming (depending upon the number of channels in the system). In the case of two adjoining MDUs, the SMATV system's antennas can serve both buildings by running a wire from the main building's antennas to the second building, assuming the transmission wire does not cross a public right-of-way. When the enhanced SMATV or private cable system antennas serve two or more MDUs that are not adjoining, the SMATV system uses an 18 GHz microwave transmission system to relay the programming to receiving antennas on the other MDUs. Telephone interview with Deborah Costlow,, General Counsel, ICTA, Nov. 13, 1997.

³⁰¹ICTA Comments at 5.

84. *Growth.* ICTA notes that the SMATV industry is composed of hundreds of small and medium size firms throughout the nation.³⁰² The SMATV industry appears to have considerable growth potential and is becoming a more significant competitor to traditional cable service. There are approximately 28 million MDU units in the United States, housing more than one-fourth of the nation's total population.³⁰³ The number of SMATV residential subscribers as of June 30, 1997, was estimated to be 1,162,500.³⁰⁴ The number of SMATV subscribers in June 1997 represented a 3.2% increase over the 1,126,000 SMATV subscribers estimated in December 1996, while the December 1996 total

³⁰²*Id.* at 1.

³⁰³*Id.* at 2.

³⁰⁴*See* Table E-1. Commission staff estimated the number of SMATV subscribers for June 1997 based on information found in Paul Kagan Associates, Inc., *Private Cable Growth* (Chart), Private Cable Investor, July 31, 1997, at 3. However, the ICTA estimates the number of SMATV and private cable subscribers to be approximately 1.5 to 1.75 million subscribers. ICTA Facsimile, Nov. 12, 1997, at ¶ 3.

represented a 17.1% increase over the 962,000 subscribers estimated in December 1995.³⁰⁵ Approximately 3,400 SMATV operators serve MDUs.³⁰⁶ According to industry sources the growth markets for SMATV firms are in Texas, Florida, California, and Arizona, and major urban centers with large numbers of MDUs, such as Atlanta, Chicago, New York, and San Francisco.³⁰⁷ Since our last report, system acquisitions have occurred in the SMATV industry. For example, OpTel, the largest SMATV operator, bought Phonoscope and TARA Systems, Inc., which raised OpTel's total subscribers from 121,100 to 147,500.³⁰⁸

85. *Technology.* Many SMATV operators are upgrading existing systems to 750 MHz HFC broadband architecture.³⁰⁹ This architecture is capable of transmitting hundreds of channels using digital compression.³¹⁰ In addition, several firms have technologies that permit SMATV systems to deliver DBS, local off-air television signals and security services.³¹¹ SMATV operators have employed enhanced microwave frequencies to link headends between widely separated MDUs.³¹²

³⁰⁵See Table E-1.

³⁰⁶The number of SMATV operators is derived from information provided by ABC, Inc., Government Affairs, based on the number of ESPN Affiliates from the "apartment" (MDU) sector as of June 30, 1997. (The data cannot be compared with data from previous years due to different information sources.)

³⁰⁷Paul Kagan Associates, Inc., *OpTel 1996 Growth Curve*, Private Cable Investor, Dec. 31, 1996, at 3; *MTS Expansion Plans*, Private Cable Investors, Nov. 30, 1996, at 5; *1996 Report*, 12 FCC Rcd at 4403-4404 ¶ 81.

³⁰⁸Table D-1. Paul Kagan Associates, Inc., Private Cable Investor, Dec. 31, 1996, at 1-2; *News, CEA Announces Sale of Private Cable Systems*, Private Cable & Wireless Cable, June 1997, at 89; Joe Estrella, *Private Cable Giant Buys Houston MDUs*, Multichannel News, Sept. 8, 1997, at 47.

³⁰⁹David M. Conrad, *This Is Living! MDU Completes Step Into the Age of Bundling*, Private Cable & Wireless Cable, Aug. 1997, at 14; ICTA Facsimile, Nov. 12, 1997, at ¶ 2.

³¹⁰In the *1996 Report*, we noted that industry analysts attributed the growth in SMATV systems to technical improvements which now make it profitable for operators to install SMATV systems in smaller MDUs. The result has been an increase in the overall number of systems, although many of these SMATV systems may serve only single MDUs. *1996 Report*, 12 FCC Rcd at 4403-4404 ¶ 81.

³¹¹*Foxcom Introduces MDU Satellite Distribution System*, Private Cable & Wireless Cable, Sept. 1997, at 38; Paul Kagan Associates, Inc., *Bridging the DBS Market*, Private Cable Investor, Nov. 30, 1996, at 6. For example, Global Communications and Heifner Communications have developed a transmission reception technology called a "Digi-SMATV." This technology integrates the DBS antenna and IRD receiver/decoder with a central frequency processor. Using this technology, subscribers can receive DBS and over-the-air digital and analog broadcast transmissions through an MDU's existing wiring. The system's developers cite its cost-efficiencies and flexibility, especially for smaller MDUs.

³¹²ICTA Comments at 1, 5; Bob Berger, *The Road Ahead*, Private Cable & Wireless Cable, Mar. 1997, at 51; David M. Conrad, *This Is Living! MDU Completes Step Into the Age of Bundling*, Private Cable & Wireless Cable, Aug. 1997 at 14; Paul Kagan Associates, Inc., *Private Telephony Census*, Private Cable Investor, Dec. 31, 1996 at 2. SMATV systems use 18 GHz microwave facilities to link headends to rooftop antennas and to link buildings, which increases efficiencies. *1996 Report*, 12 FCC Rcd at 4404 ¶ 82; *18 GHz Order*, 6 FCC Rcd at 1271-1272, 1275 n.11.

86. *Special Features.* SMATV systems compete with the franchised cable operators to serve MDUs and MDU tenants.³¹³ Increasingly, SMATV operators offer a comprehensive, "one-stop" video programming and telecommunications service for subscribers as a way of adding value to the video services. Video services may include expanded channel offerings, multiplexed premium and numerous pay-per-view channels, special sports and special events packages, and NVOD, which may be unavailable from the local cable system;³¹⁴ telecommunications services may include high-tech security monitoring through closed circuit security cameras, interactive and Internet access, local and long-distance telephony along with voice mail, paging, calling cards, and other business services tailored to the particular needs of the building's tenants.³¹⁵

87. *Programming Options.* SMATV operators have two options for purchasing programming. Many SMATV operators purchase programming through retail program packagers/distributors, such as World Satellite Network ("WSNET"), Showtime Networks, Inc., 4 Com and others, that assemble packages of satellite transmitted programming and resell them to the SMATV operators.³¹⁶ Other SMATV operators are contracting directly with satellite providers such as DIRECTV, Primestar, and Echostar to purchase video programming.³¹⁷

88. *Combination Services.* DBS and SMATV operators are beginning to use combined technology to create a DBS/SMATV delivery system. Satellite providers such as DIRECTV/USSB, Primestar, and Echostar offer SMATV operators a low-cost, technically-advanced, digital programming service that significantly increases channel capacity and adds special programming that is otherwise unavailable from cable

³¹³ICTA Comments at 1-2.

³¹⁴David M. Conrad, *This Is Living! MDU Completes Step Into the Age of Bundling*, Private Cable & Wireless Cable, Aug. 1997 at 14; Paul Kagan Associates, Inc., *Private Telephony Census*, Private Cable Investor, Dec. 31, 1996 at 2; *RCN New York City Expansion*, Private Cable Investor, June 30, 1997, at 3; *OnePoint's Full-Service-Market Entry*, Private Cable Investor, May 31, 1997, at 4; ICTA Comments at 5. As we noted in the *1996 Report*, some SMATV systems have added other advanced electronic features such as "picture-in-picture," "pick-and-pay" (or pay-per-view programming), interactive games and video-on-demand ("VOD") programming as part of their "custom-designed" programming packages for subscribers. *1996 Report*, 12 FCC Rcd at 4405 ¶ 83.

³¹⁵David M. Conrad, *This Is Living! MDU Completes Step Into the Age of Bundling*, Private Cable & Wireless Cable, Aug. 1997, at 14; Paul Kagan Associates, Inc., *Private Telephony Census*, Private Cable Investor, Dec. 31, 1996, at 2; *OnePoint's Full-Service-Market Entry*, Private Cable Investor, May, 31, 1997, at 4; Joe Estrella, *Private Cable Giant Buys Houston MDUs*, Multichannel News, Sept. 8, 1997, at 47. *1996 Report*, 12 FCC at Rcd 4405-4406 ¶ 83.

³¹⁶Tanya J. Fluette, *Programming Prenuptials*, Private Cable & Wireless Cable, Aug. 1997, at 24; Paul Kagan Associates, Inc., *World Satellite Network, Heifner Communications Merge*, Private Cable Investor, June 30, 1997, at 5; *Programming, Showtime Restructures DTH Division*, Private Cable & Wireless Cable, Aug. 1997, at 40.

³¹⁷ICTA Facsimile, Nov. 12, 1997, at ¶ 4; Paul Kagan Associates, Inc., Private Cable Investor, June 30, 1997, at 1; *DIRECTV Signs Nationwide MDU Distribution Agreement*, Private Cable & Wireless Cable, Sept. 1997, at 45; *Digital Transport Pacts*, Private Cable Investor, Dec. 31, 1996 at 5; *Comm Daily Notebook*, Comm. Daily, Sept. 16, 1997; *1996 Report*, 12 FCC Rcd at 4404-4405 ¶ 82.

systems or MMDS operators.³¹⁸ Because of these features, even program packagers such as WSNET are contracting with DBS providers and then reselling these services to their SMATV subscribers.³¹⁹ SMATV providers may realize significant savings by avoiding plant and equipment investment.³²⁰ In particular, this arrangement makes serving smaller MDUs with fewer than 100 units profitable.³²¹ However, despite its advantages, some SMATV operators have expressed concerns that using a DBS provider may limit their programming choices and the flexibility to customize programming and other services for their tenants.³²²

89. *Real Estate Owners and Property Managers.* In the last two years, Real Estate Investment Trusts ("REITS")³²³ and other national property management companies and ownership groups, with numerous interstate property holdings, have begun to negotiate programming and other MVPD services on a national basis. This recent trend has "nationalized" a traditionally community-oriented and often individualistic business environment. National bargaining for video programming services may permit real estate companies to negotiate advantageous programming arrangements and services for their properties.³²⁴

F. Broadcast Television Service

90. Broadcast networks and stations are competitors to other MVPDs in the advertising and program acquisition markets. Additionally, broadcast networks and stations are suppliers of content for

³¹⁸Paul Kagan Associates, Inc., *Private Cable Investor*, June 30, 1997, at 1; *DIRECTV Signs Nationwide MDU Distribution Agreement*, *Private Cable & Wireless Cable*, Sept. 1997, at 45; *Digital Transport Pacts*, *Private Cable Investor*, Dec. 31, 1996 at 5; Paul Kagan Associates, Inc., *TelQuest Revised Transport Plan*, *Private Cable Investor*, June 30, 1997, at 2; Monica Hogan, *TSAT Outlines PrimeStar's High-Power Plans*, *Multichannel News*, Aug. 18, 1997 at 10, 61.

³¹⁹Tanya J. Fluette, *A Decade of Difference, SBCA Celebrates Ten Years of Service*, *Private Cable & Wireless Cable*, Sept. 1997, at 40; *DIRECTV Signs Nationwide MDU Distribution Agreement*, *Private Cable & Wireless Cable*, Sept. 1997, at 45.

³²⁰Lori Parker, *Tapping the Potential, DBS Offers Solutions to Private Cable Operators*, *Private Cable & Wireless Cable*, July 1997, at 8-9; *EchoStar Talking to MMDS Operators*, *Private Cable Investor*, Nov. 30, 1996 at 7; *SkyView To Deliver DIRECTV Nationwide*, *Private Cable Investor*, Dec. 31, 1996 at 8; July 31, 1997, at 1.

³²¹Lori Parker, *Tapping the Potential, DBS Offers Solutions to Private Cable Operators*, *Private Cable & Wireless Cable*, July 1997, at 8-9; *EchoStar Talking to MMDS Operators*, *Private Cable Investor*, Nov. 30, 1996 at 7; *SkyView To Deliver DIRECTV Nationwide*, *Private Cable Investor*, Dec. 31, 1996 at 8; July 31, 1997, at 1.

³²²David M. Conrad, *This Is Living! MDU Completes Step Into the Age of Bundling*, *Private Cable & Wireless Cable*, Aug. 1997, at 14.

³²³A real estate investment trust ("REIT") is essentially a corporation or business trust that combines the capital of many investors to acquire or provide financing for all forms of real estate. *Frequently Asked Questions, What Is a REIT?* The National Association of Real Estate Investment Trusts, at <http://www.narcit.com/faqs.html#quest1>.

³²⁴US West Comments at 13-14.

distribution by MVPDs.³²⁵ During 1997, the broadcast industry experienced important changes, especially in the area of technological developments.

91. Since the *1996 Report*, the broadcast industry has seen continued growth in the number of operating stations and in advertising revenues. The number of commercial and noncommercial television stations increased to 1561 as of July 31, 1997, from 1550 as of August 31, 1996.³²⁶ Broadcast total advertising revenues reached \$31.3 billion in 1996, a 12% increase over 1995.³²⁷ Advertising revenues for the six broadcast networks alone reached \$14.7 billion in 1996.³²⁸ In comparison, cable programming networks received an estimated \$4.9 billion in advertising revenue in 1996, an increase of 21% over 1995.³²⁹

92. Broadcast station share of total television viewing declined, however, as a result of cable and other MVPD competition, but it still attracts a large majority of the television audience.³³⁰ During the 1996-1997 television season, the four major networks (i.e., ABC, CBS, Fox, and NBC) accounted for a combined 59% share of prime time viewing among all television households (compared to 62% in the previous year); UPN and WB, the two newest networks, achieved a combined 9% share of prime time viewing, the same as last year.³³¹ The most recent data available for households subscribing to cable service indicates that, even in cable homes, programming originating on local broadcast television stations accounted for a combined 60% share of all day viewing in the 1995-96 television season, while non-premium cable networks and pay cable services achieved a combined 51% share of all day viewing.³³²

93. The 1996 Act directed the Commission to eliminate the restrictions on the number of television stations a person or entity may own or operate nationwide, and to increase the national audience reach

³²⁵See *1995 Report*, 11 FCC Rcd at 2113-15 ¶¶ 112-115.

³²⁶Compare Federal Communications Commission, *Broadcast Station Totals as of July 31, 1997*, FCC Public Notice (Aug. 29, 1997) with Federal Communications Commission, *Broadcast Station Totals as of August 31, 1996*, FCC News Release (Sept. 10, 1996).

³²⁷The Television Bureau of Advertising ("TVB") supplied this data to the Commission on October 3, 1997, which is based on information gathered from the Competitive Media Reporting's MediaWatch Service.

³²⁸*Id.* This figure represents sales for ABC, CBS, Fox, NBC, UPN and WB. In 1995, TVB reported advertising revenues for the four major networks (ABC, CBS, Fox and NBC) of \$12.4 billion and estimated that UPN received \$250 million for advertising in 1995, and that WB received \$65 million.

³²⁹Paul Kagan Assocs., Inc., *Cable TV Advertising*, Nov. 30, 1996, at 3.

³³⁰*People's Choice: Ratings According to Nielsen, Sept. 15-21*, Broadcasting & Cable, Sept. 29, 1996, at 60.

³³¹*Id.*

³³²National Cable Television Assoc., *Viewing Shares: Broadcast Years 1985/1986-1995/1996*, Cable Television Developments, Spring 1997, at 5 (citing A.C. Nielsen Co. statistics). Reported audience shares exceed 100% due to multiple set viewing.

limitations to 35%.³³³ The Commission did this in March 1996.³³⁴ Acquisitions subsequent to these rules resulted in consolidation of television station ownership.³³⁵ An initial wave of consolidation mainly involved stations in the top media markets.³³⁶ More recently, consolidations have occurred in small and mid-sized markets.³³⁷ Overall, the number of television station owners dropped 21% to 475 in 1996 from 600 in 1995.³³⁸

94. Significant developments in the broadcast field concerning Digital Television ("DTV") also occurred during the past year. In December 1996, the Commission adopted a DTV standard,³³⁹ and, in 1997, issued two decisions concerning implementation of DTV service: (a) the *Fifth Report and Order* establishing service rules for DTV and limits on broadcasters' conversion to DTV,³⁴⁰ and (b) the *Sixth Report and Order* setting out a table of allotments for DTV channels and assignments of spectrum for DTV for each broadcast

³³³1996 Act § 202(c)(1), requiring the Commission to modify its rules set forth in § 73.3555 (47 C.F.R. 73.3555). See also *Review of the Commission's Regulations Governing Television Broadcasting: Television Satellite Stations Review of Policy and Rules*, MM Dkt. Nos. 91-221 & 87-7, Second Further Notice of Proposed Rule Making, 11 FCC Rcd at 21656-57 ¶ 2 (1996).

³³⁴See *Implementation of Sections 202(c)(1) and 202(e) of the Telecommunications Act of 1996 (National Broadcast Television Ownership and Dual Network Operations)*, Order, 11 FCC Rcd at 12374 (1996).

³³⁵*Television's Revamped Leadership*, Broadcasting & Cable, June 30, 1997, at 30-41, and Steve McClellan, *Bud Paxson Sets His Sights To Be Lucky Number 7*, Broadcasting & Cable, June 30, 1997, at 42-45.

³³⁶*Id.*

³³⁷For example, the investment and broadcast firm Hicks, Muse, Tate & Furst is attempting to consolidate its station ownership in small and mid-sized cities. Hicks is in the process of making a \$1.7 billion deal to buy Lin Television, formerly the 22nd largest station owner with holdings almost exclusively in mid-sized markets, and is buying or making deals to buy seven additional stations in small and mid-sized markets. David Lieberman, *Small Cities Are TV Targets*, USA Today, Aug. 14, 1997, at 3B. The article posits that the moves by Hicks may be the start of a second wave of consolidation in station ownership in small and mid-sized cities where the station prices are lower. Lin Television has subsequently received a larger buy-out offer from Raycom (*New Offer Confirmed for Lin Television*, New York Times, Oct. 21, 1997, at D9), which was subsequently topped by Hicks with the aid of NBC (Allen R. Myerson, *Hicks, Muse, Aided by NBC, Sweetens Lin Television Bid*, New York Times, Oct. 23, 1997, at D8).

³³⁸BIA Companies, *TV Station Ownership Consolidates 21% As Telecom Act Takes Effect* (press release), Aug. 13, 1997, at 1. BIA is a consulting and research company which specializes in the television, radio, and telecommunications industries.

³³⁹*Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, MM Dkt. No. 87-268, Fourth Report and Order ("*Fourth Report and Order*"), 11 FCC Rcd at 17771 (1996). See also *Technical Standards for Digital Television*, MM Dkt. No. 87-268, Public Notice, 11 FCC Rcd at 16736 (1996).

³⁴⁰*Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, MM Dkt. No. 87-268, Fifth Report and Order ("*Fifth Report and Order*"), 12 FCC Rcd at 12810 (1997).

station.³⁴¹ Under the DTV construction schedule set out in the *Fifth Report and Order*, which is intended to ensure the preservation of a universally available local television broadcasting service and the swift recovery of analog broadcast spectrum, affiliates of the top four networks in the top ten markets are required to be on the air with digital signals by May 1, 1999.³⁴² Certain volunteer stations in the top ten markets will be on the air by November 1998. Affiliates of the top four networks in markets 11 through 30 must be on the air by November 1, 1999. This schedule provides that more than half of all television households could have access to DTV signals provided by multiple local stations by November 1, 1999.³⁴³ All other commercial stations are required to construct their DTV facilities by May 1, 2002, and all noncommercial stations must construct their DTV facilities by May 1, 2003.³⁴⁴ Subject to biennial review as required by Section 202(h) of the 1996 Act and Section 11 of the Communications Act, as amended, and to certain statutory exceptions, the current target date for all stations' return of their analog spectrum is 2006.³⁴⁵

95. DTV has the potential to allow the broadcasters to become more effective competitors with cable companies in the MVPD market. Unlike the other delivery technologies discussed in this report, broadcast television stations currently provide one channel of video programming. Once broadcast television stations convert from analog to digital television, however, they will have an option to offer multiple channels of video service during all or part of the broadcast day. The Commission requires provision of one free, over-the-air broadcast signal of at least comparable resolution to today's service.³⁴⁶ Under the Commission's rules for DTV, digital encoding and transmission technology will permit stations to broadcast: one or perhaps two High Definition Television ("HDTV") signals; multiple streams of Standard Definition Television ("SDTV") signals; or a combination of the two. Some broadcasters have proposed that they combine the digital spectrum of all stations in a local television market to create a 40 to 50 channel service that could compete with

³⁴¹*Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, MM Dkt. No. 87-268, Sixth Report and Order ("*Sixth Report and Order*"), FCC 97-115 (rel. Apr. 21, 1997) summarized at 62 Fed. Reg. 26684 (May 14, 1997).

³⁴²*Fifth Report and Order*, 12 FCC Rcd at 12840-41 ¶ 76.

³⁴³*Id.*

³⁴⁴*Id.* Twenty-four television stations have voluntarily agreed to an 18-month schedule for the construction of their DTV facilities.

³⁴⁵*Id.* at 12850-51 ¶¶ 99, 100. See also Balanced Budget Act of 1997 ("BBA"), Pub. L. 105-33, 111 Stat. 251 (1997) (codified at 47 U.S.C. § 309(j)(14)(A)-(B)) (establishing statutory target date for return of the analog spectrum and setting out exceptions to that deadline).

³⁴⁶See *Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, MM Dkt. No. 87-268, Further Notice of Proposed Rulemaking and Third Notice of Inquiry, 10 FCC Rcd 10540 (1995); *Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, MM Dkt. No. 87-268, Fifth Further Notice of Proposed Rule Making, 11 FCC Rcd 6235 (1996). HDTV signals will be of much higher quality than current broadcasts, with digital picture and CD-quality sound. SDTV broadcasts also have the potential to be of higher quality, depending on the number of channels broadcast, and the quality of compression technology.

MVPDs.³⁴⁷ At this time, however, it is unclear how DTV will develop as a broadcast service for consumers.³⁴⁸ Thus, at least for the near term, it appears unlikely that broadcast television will offer consumers a multichannel video programming service in competition with cable.

96. We reported on two experimental HDTV stations in the *1996 Report*.³⁴⁹ These stations continue their tests. One station, KITV in Honolulu, announced that it planned to begin commercial DTV broadcasts on December 1, 1997, if all permits were received. These permits were received, but KITV has not announced that it has begun these broadcasts. KITV and its satellite stations in Hawaii will offer an as-yet undetermined mix of HDTV and multicast SDTV.³⁵⁰ WBTW in Charlotte, North Carolina, received a construction permit on October 2, 1997.³⁵¹ As of December 31, 1997, seven DTV construction permits have been granted, including the four listed above.³⁵² No station, however, has begun commercial DTV broadcasts.³⁵³ In previous reports, we also noted that low power television ("LPTV") stations can offer

³⁴⁷Fred Dawson, *Digital TV Picture Remains a Muddle*, Multichannel News, Aug. 18, 1997, at 1, 64 (referring, in part, to Sinclair Broadcasting's plan in Baltimore, Maryland); John Higgins, *HDTV Falling Out of Favor*, Broadcasting & Cable, Aug. 18, at 4 (noting that five broadcasters in Atlanta could create a 15-24 channel wireless cable system).

³⁴⁸There are a number of factors that will affect the development of DTV, including logistical and resource issues regarding the construction and modification of television towers, the cost of conversion of station facilities and the manufacture and availability of television sets with DTV capability. See, e.g., Jennifer Clarson, *DTV Timetable Turns Screws on Tower Build-Out*, Television Broadcast, July 1997, at 1; *Hype Definition Waiting for HDTV? Don't Go Dumping Your Old Set Just Yet, Promise of Digital Television Is Fading as Broadcasters Complain About Costs*, Wall Street Journal, Sept. 12, 1997, at A1; and Joel Brinkley, *3 Networks, Set Makers In Standoff Over HDTV*, New York Times, Aug. 29, 1997, at C1.

³⁴⁹*1996 Report*, 12 FCC Rcd at 4409 n. 298.

³⁵⁰See *Hawaiian Stations to Launch DTV Broadcasting Dec. 1*, Comm. Daily, Aug. 19, 1997, at 3. KITV in Honolulu has two satellite stations, KMAU in Wailuku and KHVO in Hilo, which will begin DTV broadcasts simultaneously. KITV converted to DTV early because it was undertaking a major upgrade of its facilities anyway. The Station's General Manager also stated that he believed DTV would improve signal transmission, which has been poor in the past due in part to Hawaii's mountainous terrain. These stations received their construction permits as follows: KHVO-DT in Hilo, Channel 18, BPCDT-970821KE (Sept. 3, 1997); KITV-DT in Honolulu, Channel 40, BPCDT-970808KE (Sept. 4, 1997); KMAU-DT in Wailuku, Channel 29, BPCDT-970808KF (Oct. 21, 1997).

³⁵¹WBTW-DT in Charlotte, North Carolina, Channel 23, BPCDT-970919KE (Oct. 2, 1997). See also *Mass Media*, Comm. Daily, Oct. 9, 1997.

³⁵²The others are: KHOU-DT in Houston, Texas, Channel 31, BPCDT-971016KE (Oct. 27, 1997), and WSB-DT in Atlanta, Georgia, Channel 39, BPCDT-971020KE (Nov. 21, 1997), and WCBS-DT, New York, New York, Channel 56, BPCDT-971103KE (Dec. 17, 1997).

³⁵³See, e.g., Joel Brinkley, *Under Pressure, 2 Broadcasters Decide They Will Now Run HDTV*, New York Times, Sept. 18, 1997, at D1 (regarding reconsideration by ABC and Sinclair Broadcasting of their earlier announced plans to offer multiple channels of SDTV rather than HDTV); Steve McClellan and Glen Dickson, *CBS and Affiliates Talk Digital*, Broadcasting & Cable, Oct. 6, 1997, at 17 (noting a planned meeting between CBS and
(continued...)

multichannel video programming services on a subscription basis and that such service exists in two areas.³⁵⁴ We also noted that such service remains extremely limited and does not appear to have a significant impact on competition in the video market.³⁵⁵ No further applications for LPTV multichannel video programming services construction permits or requests to begin service have been filed in the last year.

G. Other Entrants

1. Internet Video

97. In the past two reports, we noted that software is currently available that makes real-time and downloadable audio and video from the Internet available to a personal computer.³⁵⁶ We also reported another mechanism for PC-based video delivery for Java-enabled browsers.³⁵⁷ Over the past year, additional technologies for Internet video have emerged. WebTV³⁵⁸ recently announced plans to provide television/Internet interactivity or "hyperlinking"³⁵⁹ and video viewing over the Internet through WebTV-specific technologies,³⁶⁰ and WorldGate has announced similar plans based on different technologies.³⁶¹ Video over the Internet, however, is not comparable in quality to broadcast video provided by MVPDs, and it is

³⁵³(...continued)

its affiliates to discuss how much HDTV the network plans to offer and to what extent it will broadcast multichannel signals).

³⁵⁴1996 Report, 12 FCC Rcd at 4410 ¶ 94.

³⁵⁵*Id.*

³⁵⁶1995 Report, 11 FCC Rcd at 2121 ¶ 127, and 1996 Report, 12 FCC Rcd at 4412-13 ¶ 99. This year, several other companies offer notable software packages including SummerSoft's[®] V-Fone for video conferencing, WebCam for placing video content on the Internet, and V-Play for viewing video content on the Internet (*See* <http://www.summersoft.com/>); Internet Video Services, Inc.'s netStream[™] for streaming video and netvideo[™] for downloadable video; and Cinecom Corporation's Cine Video/Direct and Cine Video Director for PC-to-PC live video (*See* <http://www.cinecom.com>).

³⁵⁷Java[™] is a computer language/platform developed and licensed by Sun Microsystems, Inc. OnlineTV offers regularly scheduled content on the Internet through its Web site to anyone with a Java enabled browser. *See* OnlineTV Corp., <http://onlinetv.com/>.

³⁵⁸WebTV Networks is subsidiary of the Microsoft Corporation.

³⁵⁹"Hyperlinking" is the process by which a television viewer can instantly access an advertiser's or programmer's related Web site or product order form through the single touch of a remote control button. Warren Publishing, *Cable Systems Ready for Commercial Launch of Competitor to WebTV*, Comm. Daily, Sept. 16, 1997, at 4.

³⁶⁰David Bank, *Microsoft's WebTV Unit to Introduce Process That Uses Web to Enhance TV*, The Wall Street Journal, Sept. 15, 1997 at B2.

³⁶¹*Id.*

unclear whether the needed improvements will be made to make video service over the Internet a viable competitor.

98. Last year we reported that delivery of video programming over the Internet was inhibited by the limited bandwidth and transmission delays of the Internet.³⁶² This continues to be the case. While computer and Internet related hardware and software continue to improve, transmission rates vary depending on a number of factors, including bandwidth, speed of various servers on the Internet, number of users, and capacity of the equipment receiving the data.

99. Despite the relative weakness of PC-based video provision over the Internet, many companies are upgrading and marketing software that renders video delivery to a computer through an Internet connection.³⁶³ The primary purpose of most of these software packages is for business use (e.g., video conferencing and business promotion), although video programming use of the Internet is starting to emerge. The two primary modes of PC-based delivery are: (a) downloading a video file for later playback; and (b) streaming.

100. Downloading for future playback is one of the most widely used methods of providing video to the Internet user. While compression techniques used in this process significantly reduce the size of the video file, a typical consumer will expend considerably more time downloading the file than it will take to "play" it.³⁶⁴ The time to download a file depends on a number of factors, including: (a) the speed of the Internet connection; (b) how busy the server sending the video file is; and (c) the size of the video file.

101. "Streaming" is the other primary mode of receiving video from the Internet. Streaming eliminates both the wait time associated with downloading a video file and the storage of that file on the consumer's hard disk. Video using a streaming format can be viewed in real time by a consumer using a 28.8 Kbps telephone modem (or faster) connection; however, the quality of the video is not as good or as reliable as MVPD service. Currently there are 20,000 hours of audio and video streaming available on the Internet each week.³⁶⁵

102. *WebTV and WorldGate.* WebTV and WorldGate are developing technologies for combining the use of Internet data and traditional video programming delivery service. In September 1997, WebTV announced plans to improve its current delivery of conventional Web pages to television sets to include a tuner that enables television shows to be viewed from within Web pages and circuitry and allows the tuner to receive digital data over cable or broadcast television signals. Until now, WebTV's digital data was transmitted over telephone lines, but the announced improvements will permit users to download digital data through existing

³⁶²1996 Report, 12 FCC Rcd at 4412-13 ¶ 107.

³⁶³See fn. 356 *supra*.

³⁶⁴The downloaded file resides on the hard disk of the user's computer. The video file must be downloaded entirely before it can be played using an appropriate player or helper application.

³⁶⁵Presentation by Phil Barrett, of Progressive Networks, at the Cross-Industry Working Team meeting, Princeton, New Jersey, Aug. 6, 1997. See also <http://www.real.com/corporate/index.html>.

cable or broadcast technology, though users must use phone lines to send messages.³⁶⁶ The RCA division of Thomson, SA has launched a product similar to WebTV which merges television, the World Wide Web, and e-mail features.³⁶⁷ Also, WorldGate has announced plans for a similar product which, instead of an upstream telephone connection, will use advanced analog or digital set-top boxes to provide full, two-way Internet and Web access over cable television networks using the television as a display device.³⁶⁸

2. *Home Video Sales and Rentals*

103. Premium and pay-per-view cable services are not regulated because they are competitive.³⁶⁹ As discussed in previous reports, we consider the sale and distribution of feature film entertainment through video tape sales and rental outlets as part of the video programming market since they provide video services similar to the premium and pay-per-view services offered by MVPDs.³⁷⁰ It is estimated that 88% of all U.S. television households own at least one VCR.³⁷¹ In 1996, the U.S. video cassette rental and sales market had an estimated \$15.6 billion in revenue, having grown from \$9.8 billion in revenue in 1990. This revenue stream is now the largest single source of revenue to movie studios, representing approximately \$4.5 billion, or 45%, of the \$9.9 billion of estimated domestic studio revenue in 1996.³⁷² As a comparison, the combined total spending for similar products distributed by cable television, satellite, and other MVPD pay television services was \$7.2 billion in 1996.³⁷³

104. The video retail industry is highly competitive with supermarkets, pharmacies, convenience stores, bookstores, mass merchants, mail order operations and other retailers involved in video tape sales or rentals. In 1996, there were approximately 27,000 video specialty stores in the U.S. selling or renting video

³⁶⁶David Bank, *Microsoft's WebTV Unit to Introduce Process That Uses Web to Enhance TV*, Wall Street Journal, Sept. 15, 1997, at B2.

³⁶⁷RCA's product is based on a design from NetworkComputer, Inc., a unit of Oracle Corporation which uses programming from NetChannel, Inc. David Bank, *Microsoft's WebTV Unit to Introduce Process That Uses Web to Enhance TV*, Wall Street Journal, Sept. 15, 1997, at B2.

³⁶⁸WorldGate also allows for hyperlinking which permits the television viewer to instantly access, remotely, the Web site of an advertiser currently on the television. *Cable Systems Ready for Commercial Launch of Competitor to WebTV*, Comm. Daily, Sept. 16, 1997, at 4.

³⁶⁹See House Committee on Energy and Commerce, H.R. Rep. No. 623, 102d Cong., 2nd Sess. (1992) at 90.

³⁷⁰*Competition, Rate Deregulation and the Commission's Policies Relating to the Provision of Cable Television Service*, MM Dkt. N., 89-600, Report, 5 FCC Rcd 4962, 5019-20 ¶¶ 109-110 (1990); *1994 Report*, 9 FCC Rcd at 7509-10 ¶¶ 134-135; *1995 Report*, 11 FCC Rcd at 2118-9 ¶ 121.

³⁷¹*Consumer Electronics & the U.S. Economy*, Consumer Electronics Manufacturers Association, 1996.

³⁷²Hollywood Entertainment Corp., Filing Pursuant to Rule 424(b)(3) (filed Sept. 25, 1997), SEC File No. 333-35351 ("Hollywood Filing"). The data in this filing are from Hollywood Entertainment, Adams Media Research, Paul Kagan Associates, Motion Picture Association of America, and the Video Software Dealers Association.

³⁷³Veronis, Suhler & Associates, *The Veronis, Suhler & Associates Communications Industry Forecast 184* (1997).

tapes.³⁷⁴ A large video tape store may carry as many as 10,000 titles, including multiple copies of the more popular titles.³⁷⁵

105. To maximize revenue, studios have a strategy of sequential release, providing each distribution channel the rights to movies for a limited time before making them available to the next distribution channel.³⁷⁶ These distribution channels generally include, in release date order, movie theaters, video retail stores, pay-per-view television, including DBS and pay cable television, and, finally, network and syndicated television.³⁷⁷ The studios determine the sequential order in which they release movies to each distribution channel based upon the order they believe will maximize their total revenue from all distribution channels combined.³⁷⁸ For example, movie studios have generally licensed their films first to the broadcast television networks and then to basic cable television networks since the cable networks usually pay less than the broadcast networks.³⁷⁹ Recently, however, cable networks, such as TNT, have obtained the rights to show major movies prior to their distribution to broadcast television and are paying rates comparable to those paid by the broadcast networks.³⁸⁰ Changes in the manner in which movies are marketed, including the release cycle of movie titles to pay-per-view, DBS, cable television, or other distribution channels, could change the relative competitiveness of these technologies. Existing pay-per-view services, moreover, offer a limited number of channels and movies. Changes in technology, including digital compression technology, are expected eventually to permit cable companies, DBS companies, telephone companies, and other telecommunications companies to become more competitive with the home video sales and rental industry as they are able to transmit a larger number of movies to homes at more frequently scheduled intervals or on demand.

106. In the last year, Digital Versatile Disc ("DVD") technology has become available for consumers.³⁸¹ DVD players are used in conjunction with a television set to view movies. DVD formatted movies can also be viewed on personal computers. The discs are similar in size to compact discs ("CDs"), offer better picture and audio quality than video cassettes, and are more durable than videotape. The additional information storage capacity of DVDs permits multiple screen formats, including the original theatrical widescreen version. An interactive on-screen menu allows DVD users to switch between multiple language

³⁷⁴Hollywood Filing.

³⁷⁵*Id.* Hollywood Entertainment cites statistics for its typical Hollywood Video store.

³⁷⁶*Id.*

³⁷⁷*Id.*

³⁷⁸*Id.*

³⁷⁹Geraldine Fabrikant, *Time Warner is Licensing 12 Films to Cable Outlets*, New York Times, Jan. 16, 1997, at D10.

³⁸⁰*Id.* See also Eben Shapiro, *Turner to Premiere First-Run Movies on Cable Network*, Wall Street Journal, Jan. 16, 1997, at B11 (indicating that the Turner Broadcasting unit of Time Warner paid "network" rates for a 12-picture deal after the broadcast networks had an opportunity to bid on the movies).

³⁸¹Joel Brinkley, *It's a Made for Television Controversy*, New York Times, Oct. 15, 1997, at D1. For additional information, see also *1995 Report*, 11 FCC Rcd at 2119 ¶ 122.

tracks and subtitles, to watch the original theatrical trailer and to explore material about the cast, director and making of the film.³⁸² DVD players entered the marketplace in February 1997, although DVD with recording capability is not expected until 1998.³⁸³ DVD players range in price from \$499³⁸⁴ to \$5000.³⁸⁵ More than 50 titles have been released in this format at an approximate cost of \$25 each.³⁸⁶ In September 1997, Circuit City announced plans to introduce Divx, a pay-per-view alternative for digital discs using a Divx-enabled DVD player that is connected to a phone line to forward playing and billing information to a central computer.³⁸⁷ Divx versions of movies are expected to cost \$5. The consumer will be able to view the movie for a 48-hour period after it is first played. After that time, the consumer will have to pay an additional fee for another 48-hour viewing period.³⁸⁸

3. *Interactive Video and Data Service*

107. The interactive video and data service ("IVDS") is a point-to-multipoint, multipoint-to-point, short distance communication service.³⁸⁹ An IVDS licensee may transmit information, product, and service offerings to its subscribers and receive interactive responses.³⁹⁰ Although the IVDS channel width is insufficient for the transmission of conventional full motion video, IVDS services were initially planned

³⁸²Warner Home Video Web site, <http://207.155.85.62/store/faq.tam>.

³⁸³Veronis, Suhler & Associates, Communications Industry Forecast, *Filmed Entertainment*, at 201.

³⁸⁴Warner Home Video Web site, <http://207.155.85.62/store/faq.tam>.

³⁸⁵Veronis, Suhler & Associates, Communications Industry Forecast, *Filmed Entertainment*, at 201.

³⁸⁶*Id.*

³⁸⁷Joel Brinkley, *It's a Made for Television Controversy*, New York Times, Oct. 15, 1997, at D1; Jerry Knight, *Coming to a TV Near You: The Disposable Video Disc*, Washington Post Business Section, Oct. 6, 1997, at 5.

³⁸⁸*Id.*

³⁸⁹The Commission established a frequency allocation at 218-219 MHz for IVDS in 1992, allowing a 500 kilohertz frequency segment to two licensees in each of the 734 cellular-defined service areas (306 Metropolitan Statistical Areas ("MSAs") and 428 Rural Service Areas ("RSAs")). *Amendment of Parts 0, 1, 2 and 95 of the Commission's Rules to Provide Interactive Video and Data Services*, GEN Docket No. 91-2, Report and Order, 7 FCC Rcd 1630, 1630-33 (1992), *on recon.*, Memorandum Opinion and Order, 7 FCC Rcd 4923 (1992), *further recon.*, Second Memorandum Opinion and Order, 8 FCC Rcd 2787 (1993). The first 18 IVDS system licenses (covering nine of the top ten MSAs) were awarded by lottery held in September 1993. Public Notice, Mimeo No. 42412 (rel. March 30, 1994). These licenses were granted in March 1994. The Commission auctioned the remaining 594 MSA IVDS licenses in July 1994. Public Notice, Mimeo No. 44160 (rel. Aug. 2, 1994), *erratum*, Public Notice, Mimeo No. 44265 (rel. August 9, 1994). For Commission's competitive bidding authority, *see* 47 U.S.C. § 309(j). Licenses have been granted to all of the IVDS auction bidders that satisfied the applicable payment deadlines. *See* Public Notice, DA 95-152 (rel. Feb. 8, 1995); News Release, Mimeo No. 51403 (rel. Dec. 29, 1994). The regulations governing IVDS are codified at 47 C.F.R. §§ 95.801-.863.

³⁹⁰Mobile operation is permitted. *See* 47 C.F.R. § 95.805(e).

as interactive text-based supplements for the use of television viewers.³⁹¹ Recently, however, non-IVDS technologies have developed some of these same supplementary, interactive, text-based services,³⁹² and IVDS firms are considering using their IVDS spectrum rights to provide telemetry services, such as remote meter reading, vending machine inventory control, and cable television theft deterrence. IVDS licensees may develop other applications consistent with the Commission's rules without Commission approval.³⁹³

H. Local Exchange Carriers

108. In the *1995* and *1996 Reports*, we noted that LECs did not yet represent a national presence in the MVPD market, and that they were weighing their options for entry.³⁹⁴ This is still true. To date, LECs represent a competitive presence in a small (although growing) number of markets for the delivery of video programming. LEC entry into video distribution, however, has proceeded sporadically and has been highly dependent on the business strategies of the individual companies involved.

109. As we noted in the *1996 Report*,³⁹⁵ Section 302(b)(1) of the 1996 Act eliminated the restriction on LECs providing video service directly to subscribers in their telephone service areas. This statutory change permits telephone companies to provide video services under one of several options. The specific options set forth in the Communications Act provide that common carriers may: (1) provide video programming to subscribers through radio communications under Title III of the Communications Act;³⁹⁶ (2) provide transmission of video programming on a common carrier basis under Title II of the Communications Act;³⁹⁷ (3) provide video programming as a cable system under Title VI of the Communications Act;³⁹⁸ or (4) provide video programming by means of an open video system.³⁹⁹

³⁹¹At this time, it appears that there are very few IVDS services in operation.

³⁹²WebTV, Wink and WavePhore are examples of firms offering text-based interactive television services which encompass, or are similar to, those originally envisioned by potential IVDS providers.

³⁹³The Commission had scheduled a second IVDS auction for February 1997 to award licenses in the 428 RSAs and in the MSAs for which bidders in the first auction did not satisfy applicable payment deadlines. In January 1997, however, the Commission postponed the auction in order to "consider a petition for rulemaking and numerous informal requests of potential bidders and license holders seeking to obtain additional flexibility for the service." Public Notice, DA 97-209, Report No. AUC-96-13-E (rel. Jan. 29, 1997). The Commission is currently considering requests to extend the IVDS license term from five to ten years, and to allow the same entity to own or control both IVDS licenses in a single market.

³⁹⁴*1995 Report*, 11 FCC Rcd at 2110 ¶ 103, *1996 Report*, 12 FCC Rcd at 4394 ¶ 67.

³⁹⁵*1996 Report*, 12 FCC Rcd at 4395 ¶ 68.

³⁹⁶47 U.S.C. § 571(a)(1).

³⁹⁷47 U.S.C. § 571(a)(2).

³⁹⁸47 U.S.C. § 571(a)(3).

³⁹⁹47 U.S.C. § 571(a)(3)-(4).

1. *Current and Planned LEC Video Delivery*

110. *MMDS*. SBC Communications, through its Pacific Bell Video Services subsidiary (herein referred to as "SBC"), and BellSouth are the largest LEC investors in MMDS licenses and systems.⁴⁰⁰ SBC announced its initial commercial rollout of digital MMDS, under the brand name "Pacific Bell Digital TV," in Los Angeles and Orange County in May 1997.⁴⁰¹ The service offers more than 120 channels of digital video, with packages priced from \$31.95 to \$53.95,⁴⁰² and currently serves 10,000 subscribers.⁴⁰³ Press reports indicate that SBC eventually will be able to offer digital MMDS service to five million line-of-sight homes.⁴⁰⁴ SBC also operates the 42,000 subscriber MMDS system in Riverside, California.⁴⁰⁵ In February 1996, BellSouth acquired Wireless Cable of Atlanta, Inc. ("WCA") and its MMDS operations for \$46.9 million. WCA has 9,000 subscribers in the Atlanta region.⁴⁰⁶ BellSouth has also entered into or completed agreements to acquire MDS and ITFS channel rights covering 4.5 million homes in and around several large markets in Florida, including Miami, and in New Orleans, Louisiana, and Louisville, Kentucky. BellSouth launched its digital MMDS system in New Orleans on November 19, 1997.⁴⁰⁷ BellSouth states that it plans to launch digital MMDS service in Atlanta during the fourth quarter of 1997, in Jacksonville and Orlando, Florida during the first half of 1998, and in Miami/Ft. Lauderdale and Louisville during the second half of 1998.⁴⁰⁸

⁴⁰⁰BellSouth Comments at 7-8 and Exhibit 1, "Letter to Sen. John McCain," at 2.

⁴⁰¹Recent reports indicate that these MMDS systems might be sold or subject to a management buyout. Price Colman, *SBC Selling LA Wireless Cable*, *Broadcasting & Cable*, Dec. 8, 1997, at 90.

⁴⁰²PacificTelesis, Pacific Bell, Nevada Bell, *Pacific Bell Digital TV Begins Initial Rollout in Southern California* (online news release), May 29, 1997.

⁴⁰³Letter from Link Brown, Director - Federal Regulatory, SBC Communications, to Meredith Jones, Chief, Cable Services Bureau, Sept. 1997.

⁴⁰⁴Rob Doyle, *A Wireless Weapon in the Cable Wars*, *BusinessWeek*, Oct. 14, 1996, at 105; confirmed by telephone interview with Gina Harrison, Director Regulatory Affairs, PacTel (Feb. 26, 1997).

⁴⁰⁵Pacific Telesis Group, *Pacific Telesis Acquires Wireless Cable TV Company* (news bulletin), Apr. 18, 1995.

⁴⁰⁶BellSouth Corp., *BellSouth Acquires Wireless Cable of Atlanta* (news release), Feb. 12, 1997, at 1; Web site at <http://www.bellsouthcorp.com/proactive/documents/render/10098.html>. After upgrading the system to digital technology, the company is expected to provide 100 channels of video programming with access to more than 900,000 line of sight households in the Atlanta region.

⁴⁰⁷BellSouth Corp., *BellSouth Brings New Era of Home Entertainment Service to New Orleans* (news release), Nov. 17, 1997, at 1. The system offers 160 channels and offers service to 400,000 homes.

⁴⁰⁸BellSouth Comments at 7. US West in its comments names in further detail BellSouth's Florida MMDS holdings: all of Dade County, which surrounds Miami, Broward County, Jacksonville, Orlando, Daytona Beach, Ft. Myers, Lakeland, and Bradenton. US West Comments at 8-9.

111. LEC investment in MMDS has experienced some retrenchment as well. At the end of 1996, Bell Atlantic and NYNEX suspended investment in their MMDS systems.⁴⁰⁹ Early in 1997, SBC terminated PacTel's wireless cable service in San Diego.⁴¹⁰

112. *In-Region Cable Franchises.* In the *1995 Report* and the *1996 Report*, we reported that a number of LECs had pursued cable franchises in their service areas as a means of providing video services to their customers.⁴¹¹ The most aggressive of the LECs in this area was, and continues to be, Ameritech. Ameritech has acquired 63 cable franchises, primarily overbuilds, in Illinois, Michigan, Ohio, and Wisconsin, potentially passing more than 1.1 million homes, and continues to seek new franchises. Forty of these cable franchises were operational as of December 31, 1997.⁴¹²

113. BellSouth has acquired cable franchises in 18 areas in Alabama, Florida, Georgia, South Carolina, and Tennessee, passing 1.2 million cable households.⁴¹³ GTE has ten competitive cable franchises, and one non-competitive franchise.⁴¹⁴ SNET has received a state-wide cable franchise in Connecticut,

⁴⁰⁹*1996 Report*, 12 FCC Rcd at 4398 ¶ 72; K.C. Neel, *Where's Wireless Cable? Very Up in the Air*, Cable World, June 2, 1997, at 1, 46.

⁴¹⁰Joe Schlosser, *Pac Bell's Low-Key Digital*, Broadcasting & Cable, Oct. 6, 1997, at 62.

⁴¹¹*1995 Report*, 11 FCC Rcd at 2106-07 ¶ 97, *1996 Report*, 12 FCC Rcd at 4398-99 ¶¶ 73-74. See paras. 180-204 for a discussion of the competitive effects of these LEC-owned cable franchises.

⁴¹²The active franchises are located in: *Illinois*: Glendale Heights, Naperville, Glen Ellyn, Arlington Heights, Elgin; *Michigan*: Canton Township, Plymouth, Plymouth Township, Northville, Fraser, Northville Township, Southgate, Garden City, Troy, Wayne, Lincoln Park, Sterling Heights, Clinton, Mount Clemens, St. Clair Shores, Allen Park, Utica, Melvindale, Royal Oak, Madison Heights; *Ohio*: Hilliard, Upper Arlington, North Olmsted, Columbus, Berea, Perry Township, Worthington, Clinton Township, Riverlea, Blendon Township, Sharon Township, Fairview Park, Franklin Township, Mifflin Township, Norwich Township. The franchises which have not yet begun service are located in: *Illinois*: Vernon Hills, Prospect Heights, Des Plaines, Schaumburg; *Michigan*: Warren, Trenton, Pleasant Ridge, Ferndale, Huntington Woods, Clawson, Berkley, Roseville, Eastpointe, Westland, Riverview; *Ohio*: Marble Cliff, Valleyview, Minerva Park, Madison Township, Westlake, Jackson Township, Dublin, Prairie Township. Ameritech Comments, Attachment 1 at 1-2. Updated by Geoff Potter, Ameritech New Media, on December 31, 1997.

⁴¹³The franchises are located in: City of Vestavia Hills, Alabama; Counties of Broward, Dade, Seminole, and St. Johns (World Golf Village) and Cities of Coconut Creek, Orlando, and Pembroke Pines, Florida; Counties of Cherokee, Dekalb, and Gwinnett and Cities of Chamblee, Duluth, Lawrenceville, Roswell, and Woodstock, Georgia; City of Charleston (Daniel Island), South Carolina; and City of Bartlett, Tennessee. BellSouth Comments at 7, and telephone interview with Tom Rawls, Vice President and General Council, BellSouth Interactive Media Services, Inc. (Sept. 10, 1997).

⁴¹⁴The non-competitive franchise is in Cerritos, California. The competitive franchises are: Clearwater, St. Petersburg, Penellas County, Safety Harbor, and Dunedin, Florida; Camarillo, Thousand Oaks, Port Hueneme, Oxnard, and Ventura County, California. Telephone interview with Bill Shaw, Federal Docket Manager, GTE (Sept. 9, 1997). GTE reports that it is already signing up subscribers for the Clearwater, Florida system and plans to pass 95,000 homes in this area. *GTE Launches Its First Cable Franchise in Florida*, Multichannel News, July 1, 1996, at 2. See also *Local and State Actions*, Warren's Cable Regulation Monitor, Aug. 26, 1996; *Notebook*,

(continued...)

potentially passing 1.3 million homes, where previously it had applied to provide video dialtone ("VDT") service.⁴¹⁵ SNET has begun offering 80 channels of cable service to 2,000 customers in Uniondale, Connecticut, and says that it plans to reach one-third of the state's homes by the end of 1998, and all homes in Connecticut by 2007.⁴¹⁶ US West has elected to pursue cable franchises for its former Omaha, Nebraska, VDT trial.⁴¹⁷ Bell Atlantic is also constructing and testing an advanced Switched Digital Video ("SDV") system in the mid-Atlantic region, but rollout and service plans are unclear.⁴¹⁸

114. In contrast, Pacific Bell Video Services, which, before its merger with SBC in 1997, had obtained cable franchises for San Jose,⁴¹⁹ and the surrounding Santa Clara County in California⁴²⁰ is now in the process of terminating these franchises.⁴²¹ SBC is reportedly looking for a buyer for the incomplete system that Pacific Bell Video Services was constructing to serve these franchises.⁴²² SBC performed an 18-month cable trial in Richardson, Texas, a suburb of Dallas,⁴²³ which ended on July 7, 1997.⁴²⁴ Sprint applied for cable franchises in Wake Forest and Wake County, North Carolina last year, where it had been operating VDT

⁴¹⁴(...continued)

Television Digest, Sept. 2, 1996. GTE plans to pass 122,000 homes in Thousand Oaks, California. *Ameritech Gets 2 More System Approvals*, CableFAX, Feb. 8, 1996. In addition, GTE owns four currently operational SMATV systems in the Dallas/Ft. Worth area. These systems serve 800 video subscribers, and offer integrated telephony and video services, although not on the same wire. Telephone interview with Sharon Harris, Director of Regulatory Affairs, GTE (Feb. 26, 1997).

⁴¹⁵*SNET Gets Statewide Cable Franchise in Connecticut*, Comm. Daily, Sept. 26, 1996, at 1.

⁴¹⁶David D. Kirkpatrick, *SNET Is Offering Cable-TV Service in Connecticut*, The Wall Street Journal, Mar. 12, 1997, at B6, and *SNET Launches Cable Service in Conn., Competes with TCI*, Comm. Daily, Mar. 12, 1997, at 6.

⁴¹⁷Letter from Robert H. Jackson, U S West's Executive Director - Federal Regulatory, to Meredith J. Jones, Chief, Cable Services Bureau, Apr. 16, 1996.

⁴¹⁸See para. 177 *infra* for more details on Bell Atlantic's SDV plans.

⁴¹⁹Pacific Bell Video Services launched its commercial video service initially to 7500 homes in the San Jose area. Pacific Telesis Corp., *Pacific Bell Video Service Launches Commercial Cable TV Service in San Jose* (press release), Aug. 30, 1996; Pacific Telesis Corp., *San Jose First California City to Get Cable TV Franchise From Pacific Bell Video Services* (press release), June 25, 1996.

⁴²⁰*Local and State Actions*, Warren's Cable Regulation Monitor, Aug. 19, 1996.

⁴²¹Letter from Steven M. Harris, Vice President, External Affairs, Pacific Bell Video Services, to William F. Caton, Secretary, Federal Communications Commission, July 31, 1997.

⁴²²P.J. Huffstutter, *PacBell Seeking Buyers for Its Cable TV System Business*, Los Angeles Times, Nov. 13, 1997.

⁴²³*Comm Daily Notebook*, Comm. Daily, Feb. 3, 1997.

⁴²⁴Letter from Mark K. Armstrong, Vice President, External Affairs, Southwestern Bell, to William F. Caton, Federal Communications Commission, July 11, 1997.

trials⁴²⁵ but later notified the Commission that it would not seek a cable franchise in this area and that it was terminating video service in Wake County.⁴²⁶

115. *Out-of-Region Cable Systems.* We previously reported on out-of-region cable systems owned by LECs,⁴²⁷ and on US West's purchase of Continental Cablevision.⁴²⁸ In late October 1997, US West announced that it will split its telephone and cable operations into two separate companies, called US West, Inc., and MediaOne, respectively. The two companies will both be publicly traded, and will have separate boards. US West plans to complete this split by mid-1998.⁴²⁹ In addition, since the *1996 Report*, SBC has sold its interest in cable systems in Montgomery County, Maryland, and in Arlington, Virginia.⁴³⁰

116. *OVS.* Although OVS is one of four means for LEC entry into video, the OVS rules do not preclude other types of entities from using the OVS rules. Currently, most of the firms receiving certification from the Commission as OVS operators are not LECs.

117. The Commission has certified seven OVS operators to offer OVS service in ten areas: Bell Atlantic for Dover, New Jersey (its former VDT system);⁴³¹ Digital Broadcasting Open Video Systems for Southern California;⁴³² MFS for systems in Boston and New York City;⁴³³ Urban Communications Transport

⁴²⁵Federal Communications Commission, *Cable Services Action (Sprint, Inc.)*, FCC Public Notice (Nov. 1, 1996).

⁴²⁶*See In the Matter of Sprint Corporation Request for Extension of Time and Notification of Termination of Trial*, Order, 12 FCC Rcd at 4198, DA 97-695 (CSB Apr. 8, 1997).

⁴²⁷*1994 Report*, 9 FCC Rcd at 7498 ¶ 107 n.305. In particular, we discussed SBC in Montgomery County, Maryland, and Arlington, Virginia, and US West in the Atlanta, Georgia, area

⁴²⁸*1996 Report*, 12 FCC Rcd at 4400 ¶ 75.

⁴²⁹US West Chairman Richard McCormick told reporters that the company realized that the telephone and cable businesses are not converging. *U S West to Split Cable and Phone Businesses into Publicly Traded Companies*, Comm. Daily, Oct. 28, 1997, at 1. *See also* Leslie Cauley, *U S West's Plan to Split Up Reflects Failure in Strategy*, Wall Street Journal, Oct. 28, 1997, at B4.

⁴³⁰Prime Cable had been operating these systems for SBC, and SBC sold the systems to an investment group led by Prime Cable and backed by Carlyle Group. Leslie Cauley, *SBC Communications to Sell Its Stake In Two Washington-Area Cable Systems*, Wall Street Journal, Sept. 29, 1997, at B6.

⁴³¹*Bell Atlantic OVS Certification*, 11 FCC Rcd 13249 (1996).

⁴³²*See Public Notice*, DA 96-1703 (Oct. 10, 1996). Digital Broadcasting Open Video Systems ("DBOVS") proposes to use LEC facilities for the transmission of video services, although it is unclear whether DBOVS will implement this plan. DBOVS, on September 9, 1997, refiled for certification to reflect an ownership change, and this application has been approved by the Cable Services Bureau. *Public Notice*, DA 97-2301 (Sept. 19, 1997).

⁴³³*See Metropolitan Fiber Systems/New York, Inc. (Certification to Operate and Open Video System)*,

(continued...)

for systems in New York City and Westchester County, New York;⁴³⁴ RCN for systems in the Boston area (with Boston Edison Technology Group),⁴³⁵ and in New York City;⁴³⁶ Microwave Satellite Technologies, Inc., in New York City,⁴³⁷ and GST Telecom in Albuquerque, New Mexico.⁴³⁸ Currently, Bell Atlantic in Dover,⁴³⁹ and RCN in New York and Boston are the only operating open video systems.⁴⁴⁰

2. Video Programming and Packaging

118. In the *1995 Report* and the *1996 Report*, we reported on two joint ventures for providing original video programming and packaging of existing and original video programming: Tele-TV, comprised of Bell Atlantic, NYNEX, and Pacific Telesis (now a subsidiary of SBC); and Americast, at the time comprised of Ameritech, BellSouth, SBC, GTE, and Disney Corporation. We also noted that trade press reports indicated that the viability of both ventures was precarious.⁴⁴¹ Since the *1996 Report*, Americast has lost two of its members, SBC and Pacific Telesis,⁴⁴² and its plans for service have been scaled back. The remaining companies in Americast have announced that they will separately handle their own programming agreements

⁴³³(...continued)

Consolidated Order, 12 FCC Rcd 20896 (1997).

⁴³⁴See *Urban Communications Transport Corporation (Certification to Operate an Open Video System)*, Consolidated Order, 12 FCC Rcd 1336 (1997). Urban Communications Transport has not filed a Notice of Intent to begin service and does not appear to have facilities for video transport, so it is unlikely that it will be able to offer service in the near future.

⁴³⁵See *RCN-BETG, LLC, (Certification to Operate an Open Video System)*, Memorandum Opinion and Order, 12 FCC Rcd 2480 (1997).

⁴³⁶See *Residential Communications Network of New York, Inc. (Certification to Operate an Open Video System)*, Memorandum Opinion and Order, 12 FCC Rcd 2477 (1997).

⁴³⁷See *Microwave Satellite Technologies (Certification to Operate an Open Video System)*, Memorandum Opinion and Order, 12 FCC Rcd 3008 (1997).

⁴³⁸See *GST Telecom New Mexico, Inc. (Certification to Operate an Open Video System)*, Memorandum Opinion and Order, DA 97-2504 (CSB Nov. 20, 1997).

⁴³⁹Bell Atlantic, *Bell Atlantic Now Offering Video Services in Dover Township New Jersey* (news release), Nov. 1, 1996.

⁴⁴⁰Steve Rosenbush, *C-Tec Surges Ahead in Phome, Cable Markets*, USA Today, Sept. 15, 1997, at 3B. RCN-BETG, however, is simultaneously seeking cable franchises in Boston and some of the surrounding communities where it is already certified as an OVS operator. Press reports indicate that RCN-BETG will attempt to reach franchise agreements in the areas but will maintain OVS service if unsuccessful. Kent Gibbons, *RCN's Boston Deal Reveals OVS Pitfalls*, Multichannel News, June 9, 1997, at 1, 66.

⁴⁴¹*1995 Report*, 11 FCC Rcd at 2109 ¶ 100, and *1996 Report*, 12 FCC Rcd at 4402 ¶ 78.

⁴⁴²Reports indicate that SBC pulled out on July 28, 1997, but this fact was not announced until October 6, 1997. See *SBC Pullout*, Video Competition Report, Oct. 6, 1997.

and marketing.⁴⁴³ Program packages are being offered under the Americast brand name by BellSouth on its New Orleans digital MMDS system,⁴⁴⁴ and by Ameritech on its active cable franchises.⁴⁴⁵ At present, except for operations relating to Pacific Telesis' (now part of SBC) MMDS operations, Tele-TV is not providing video programming or packaging services, and announcements of cuts in staff continue.⁴⁴⁶

119. As noted in the *1996 Report* and paragraph 108 above, LECs do not yet present a large, nation-wide competitive presence in the MVPD market. Some LECs continue to test various technologies and construct various types of systems for video delivery. Other LECs appear to have a diminishing interest in the video marketplace. It appears that LECs will adopt different approaches depending on their varying business strategies. LECs, to the extent that they have entered the MVPD market, have done so through most of the possible means available to them: MMDS, in-region and out-of-region cable franchises, and open video systems. Although it is unlikely that LECs will move beyond entry into selected markets for the foreseeable future, LEC video operations in these selected markets represent a notable competitive presence.

I. Electric and Gas Utilities

120. Since the *1996 Report*, several utilities have announced or commenced ventures involving multichannel video programming distribution. QST Communications, an unregulated affiliate of Central Illinois Light Co., is building a network for high-speed voice, data and video services in Peoria, Illinois.⁴⁴⁷ RCN and Potomac Electric and Power Company ("PEPCO") announced a venture to build a fiber network for local telephone and dial-up Internet access services and for eventual provision of cable television and high-speed data access services in the Washington, D.C., area.⁴⁴⁸ Access Communications First Coast, a partnership of Clay Electric Cooperative and UtiliCom Networks, plans to offer video, local and long distance telephony, Internet access, shopping, data services, energy management and home security monitoring services

⁴⁴³*New Media*, Comm. Daily, Aug. 11, 1997.

⁴⁴⁴See BellSouth Corp., *BellSouth Brings New Era of Home Entertainment Service to New Orleans* (news release), Nov. 17, 1997.

⁴⁴⁵See Ameritech New Media, *Ameritech New Media Cable Franchises*, Oct. 7, 1997.

⁴⁴⁶Bill Carter, *Former CBS President Quits Troubled Tele-TV Venture*, New York Times, Apr. 7, 1997, at D8. The article states that Tele-TV laid off half of its workforce.

⁴⁴⁷Fred Dawson, *Utilities Turn Up Juice On Telecom Compete Projects*, Multichannel News Broadband Week, Oct. 14, 1996, at 81, 83 ("*Multichannel News (Utilities Turn Up Juice)*") (reporting that QST has begun building a network using state-of-the-art optical rings).

⁴⁴⁸Martha M. Hamilton and Mike Mills, *Pepco Plans Phone, Web, Cable Service*, Washington Post, Aug. 6, 1997, at A-1. PEPCO and RCN plan to enter local telephone services as a retail reseller of services purchased on a wholesale basis from Bell Atlantic. *Id.*

in Clay County, Florida.⁴⁴⁹ Some municipally-owned utilities are providing or plan to provide cable television service in their respective areas.⁴⁵⁰

121. Utilities' provision of non-energy services may extend the value of utilities' existing network and non-network assets. Utilities, for example, use communications networks for load management, thereby saving energy and reducing capital investment.⁴⁵¹ They may be able to use these networks to provide multichannel video and other services to derive additional revenue with proportionately little additional investment.⁴⁵² Industry observers, moreover, consider utilities' reputations, long-term customer relationships and billing systems to equal those of telephone companies, thereby forming an appropriate foundation for the provision of non-energy services.⁴⁵³ Utilities, however, may benefit from teaming with other companies for extension into video and telecommunications businesses because utilities have little experience in consumer marketing or entrepreneurial entry into competitive markets.⁴⁵⁴ TeCom Inc.'s agreement with EchoStar is an example of potential production and marketing efficiencies. Under this agreement, TeCom plans to develop the capability to use EchoStar DISH Network set-top boxes in providing energy management services to customers who subscribe to the DISH Network.⁴⁵⁵ In addition, pursuant to its agreement with EchoStar,

⁴⁴⁹*Comm Daily Notebook*, Comm. Daily, May 28, 1997 (incumbent cable operators in Clay County include Time Warner, Continental and P.D.Q. Cable TV) (UtiliCom specializes in partnerships with utilities to build telecommunications networks).

⁴⁵⁰*See* New York Times, Oct. 4, 1997, B1 (reporting plans for municipal video and telecommunications networks in Alta, Spencer, and Muscatine, Iowa; Tacoma, Washington; and Newnan, Georgia, and active systems in Harlan and Hawarden, Iowa, and Glasgow, Kentucky).

⁴⁵¹Ross Kerber, *Utilities Reach Out to Add Phone, Cable Service*, Wall Street Journal, Jan. 27, 1997, at B-1 ("The Wall Street Journal (*Utilities Add Phone, Cable Service*)").

⁴⁵²*See* Multichannel News (*Utilities Turn Up Juice*) (electric utilities' infrastructure costs are about \$7,000 per customer while cable networks' infrastructure costs are about \$700 to \$1,000 per customer; utilities savings from load management can cut capital costs by 50 percent; accordingly, load management energy savings alone can almost justify an electric utility's cost of a hybrid fiber-coax communications network, which can also be used in providing other communications services and video programming). *See also* The Wall Street Journal (*Utilities Add Phone, Cable Service*) (electric and gas companies own a total of about 600,000 miles of high-capacity, fiber-optic cable and have rights of way to lay more cable).

⁴⁵³*See, e.g., id.*; *Comm Daily Notebook*, Comm. Daily, Nov. 13, 1996 (a recent consumer study comparing power, telecommunications and cable television providers found that "electric companies ranked No.1 in customer recognition, loyalty, satisfaction," quoting Paul Demerly, President, Napa Valley Consulting Group). Whether for production, marketing or other reasons, many utilities are pursuing video programming distribution, telecommunications and/or other communications-related services. *See, e.g.,* The Wall Street Journal (*Utilities Add Phone, Cable Service*).

⁴⁵⁴*Id.* As an alternative to entering into multichannel video distribution, some utilities have begun to work with cable operators to determine the feasibility of using existing cable plant to support utility load management. *See* Multichannel News (*Utilities Turn Up Juice*) (five such trials are under way in various parts of the country).

⁴⁵⁵TeCom Inc., *TeCom Announces Agreement with EchoStar Communications Corp.* (press release), June 20, 1997 (<http://www.tampaelectric.com/tecom/INNwsEchoStar.html>). TeCom is an affiliate of Tampa Electric

TeCom will offer to energy industry firms the right to market EchoStar's DISH Network DBS services to potential subscribers.⁴⁵⁶

III. MARKET STRUCTURE AND CONDITIONS AFFECTING COMPETITION

A. Horizontal Issues in Markets for Video Programming

122. As in previous reports, we examine several issues concerning horizontal structure and rivalry in markets for video programming and particularly examine the issues in two separate video programming markets: the downstream (or "retail") market for delivery of video programming and the upstream (or "wholesale") market for acquisition of video programming. We first identify the market for the downstream delivered product and examine changes since the *1996 Report* in concentration and the extent of competition in local markets. We then examine the upstream market and consider the changes in concentration at the national and regional levels, including the effects of some recent (or announced) cable mergers, acquisitions, partnerships, and joint ventures.

1. Market Definition

123. Our approach to market definition is the same as in prior reports. As we explained in the *1996 Report*,⁴⁵⁷ the relevant market for examination of horizontal issues for both the downstream and upstream markets for video programming consists of two elements, a relevant product market and a relevant geographic market. In the downstream market, we use multichannel video programming services as a starting point for the definition of the relevant product.

124. In the *1996 Report*, we found that, in the downstream market the relevant geographic area for assessing MVPD competition is local and its extent can be defined by the overlap of the "footprints" of the various service providers.⁴⁵⁸ This area of overlap determines the potential MVPD choices available to a typical household. For MDUs, the relevant geographic market may be defined as the city or a section of the city where: comparable MDU housing is available to MVPD customers, especially to potential customers moving into the area; landlords control access to the building (e.g., risers and hallways) and therefore determine the number of providers to each MDU; and bundled telecommunication services (e.g., video and telephony) tend to be offered since bundled unit costs are lower than the corresponding costs of serving residential customers. MVPDs able to offer service to MDUs in this area determine the potential choices available to MDUs. The relevant product market will depend on the substitutability or relative attractiveness (including the price) among the MVPD choices to the household or MDU. Alternative providers may offer a bundle of services including video programming, telephony, Internet, and security. Data limitations, however, limit our ability to define the

⁴⁵⁵(...continued)
Company.

⁴⁵⁶*Id.*; UTC Report: *Highlights of Recent Video and Cable Related Activities of Electric and Gas Utilities, October 1996-August 1997.*

⁴⁵⁷*1996 Report*, 12 FCC Rcd at 4418 ¶115.

⁴⁵⁸*Id.* at 4418 ¶117.

markets more rigorously or to measure the market shares of non-cable MVPDs in each individual local market across the country.

125. In the upstream market for video programming, the buyers of video programming are cable operators and other video service providers, and the sellers are programmers. This market enables MVPDs to buy programming for packaging and delivery to consumers. One competitive issue is whether cable operators acting alone or acting together can exercise market power in the purchase of video programming. This upstream market tends to be regional or national, since programmers attempt to develop networks much broader than the local cable franchise area. Although cable operators usually do not compete to serve the same subscribers in local downstream markets, they may have an incentive to coordinate their decisions in the upstream market for the purchase of programming on a national or regional level. The use of buying cooperatives is an additional means of coordinating buying decisions. Concentration of ownership among buyers in this market is one indicator of the likelihood that coordinated behavior among buyers will be successful.⁴⁵⁹ The more concentrated the market, the more likely that buyers will possess some market power (or "monopsony" power).

2. *Concentration in Local Markets*

126. In previous reports, we concluded that local markets for the delivery of video programming (i.e., the downstream markets) were highly concentrated and characterized by substantial barriers to entry by potential MVPDs.⁴⁶⁰ In MDU markets, landlords may have a choice of more than one provider. However, potential entry into MDU markets may be discouraged or limited by incumbent video providers that have negotiated long-term exclusive contracts at a time when alternative service providers were not available.⁴⁶¹ As a result, there may be a tendency for prices to rise above competitive levels and for product quality, innovation, and service to fall below competitive levels in both household and MDU markets.

127. In order to obtain a summary measure of concentration in local markets for the delivery of video programming, we first consider the market shares held by cable and non-cable MVPDs in a hypothetical local market. The use of this hypothetical local market paradigm is due to the lack of MVPD subscribership data for each local market. Using this approach, we assume that each local market is identical and reflects the market shares that each MVPD holds on a national basis. A second measure we use is the Herfindahl-Hirschman Index ("HHI").⁴⁶² Although cable operators are generally dominant providers in their respective

⁴⁵⁹Concentration alone is not sufficient to determine whether a market is noncompetitive. If it is easy for new participants to enter the market, for example, highly concentrated markets may behave competitively.

⁴⁶⁰*1994 Report*, 9 FCC Rcd at 7541 ¶ 201; *1995 Report*, 11 FCC Rcd at 2123-24 ¶ 132; and *1996 Report* 12 FCC Rcd 4419 ¶ 118.

⁴⁶¹*See, Telecommunications Services Inside Wiring, Customer Premises Equipment, In the Matter of Implementation of the Cable Television Consumer Protection and Competition Act of 1992: Cable Home Wiring*, CS Docket Nos. 95-184 and 92-260, Report and Order and Second Notice of Proposed Rulemaking, FCC 97-376 ¶¶ 258-261 (rel. Oct. 17, 1997) summarized at 62 Fed. Reg. 61065 (Nov. 14, 1997).

⁴⁶²The HHI is a measure of horizontal concentration that is calculated by summing the squared market shares of the sellers in a market. It is a measure of concentration that takes account of the entire firm size distribution. Its

(continued...)

local markets, we estimate the HHI in a hypothetical local market to measure the influence of a growing competitive fringe of non-cable MVPDs and to provide a point of reference for assessing competition among MVPDs over time.

128. Both measures of concentration suggest that downstream local markets for the delivery of video programming remain highly concentrated. This approach uses the nationwide total number of subscribers to cable and non-cable MVPDs found in Table E-1, a surrogate for measuring the availability and attractiveness of various options in the hypothetical local market.⁴⁶³ In this hypothetical local market, as of June 1997, the shares of the market participants, grouped by competing technologies, would be roughly: cable, 87.1%; DBS/HSD, 9.8%; SMATV, 1.6%; and wireless cable, 1.5%.⁴⁶⁴ Although some non-cable MVPDs have increased their customer base, it has not had a significant effect on cable subscribership. DBS continues its expansionary trend of gaining new subscribers, but the market share of cable only decreased slightly from 87.7% in December 1996 to 87.1% in June 1997. Using the market shares for each technology, the estimate of the HHI is 7567, a decrease from the HHI of 7898 for 1996.⁴⁶⁵ Nevertheless, an HHI of 7567 remains several times greater than the 1800 threshold at which a market may be considered "highly concentrated."

3. *Competitors Serving Multiple Dwelling Unit Buildings*

129. Technical, regulatory and programming supply developments appear to be contributing to the emergence of a distinct MDU market, which is more competitive than other MVPD markets. Several of the video distribution technologies described above are used, singly or in combination (e.g., SMATV/DBS service), to provide video programming to consumers residing in MDUs.⁴⁶⁶ The MDU market is substantial. As of 1990, there were almost 31.5 million MDUs in the U.S., comprising approximately 28% of the total housing

⁴⁶²(...continued)

value falls with increasing numbers of firms but rises as the degree of inequality among firms increases. The United States Department of Justice ("DOJ") and Federal Trade Commission ("FTC") regularly use the HHI to evaluate the effects of proposed mergers on competition. DOJ and FTC consider markets with an HHI below 1000 as "unconcentrated;" markets with an HHI between 1000 and 1800 as "moderately concentrated;" and markets with an HHI above 1800 as "highly concentrated."

⁴⁶³In this hypothetical local market, we assume that all MVPD services are in the product market and all MVPDs are in the geographic market. This may or may not be the case in specific local markets.

⁴⁶⁴See Table E-1. DBS and HDS are combined since they both represent direct-to-home ("DTH") satellite services.

⁴⁶⁵These figures were calculated using the "percentage of MVPD total" figures found in Table E-1 of this report. To begin tracking the impact of overbuilders, the total number of cable subscribers reported in Table E-1 was reduced by the number of subscribers served by overbuilders and a separate competing group of overbuilders was added. The number of subscribers served by overbuilders increased from approximately 200,000 in 1996 to almost 520,000 by June 1997.

⁴⁶⁶MDUs comprise a wide variety of high density residential complexes, including high- and low-rise rental buildings, condominiums, and cooperatives. Townhouse and mobile home communities, nursing homes, hospitals and hotels may share in some aspects of this market.

units nationwide.⁴⁶⁷ The emergence of a distinct MDU market is reflected in Section 301(b)(2) of the 1996 Act,⁴⁶⁸ which excepts cable bulk discounts to MDUs from the uniform rate provision of Section 623(d) of the Communications Act, thereby allowing cable operators more flexibility in competing with other MVPDs for MDU subscribers.⁴⁶⁹ The Commission's recent *Order* concerning MDU inside wiring is designed to facilitate competition in this market.⁴⁷⁰

130. Traditionally, cable and SMATV operators provided MVPD services to MDU subscribers.⁴⁷¹ Recently, however, competitive strategies of a number of firms that are focusing on the MDU market illustrate what appears to be a developing competitive trend for this market. RCN, OpTel, Cable Plus and Cox, for example, offer or plan to offer MDUs a "suite" of services, including local, network and premium video programming delivered by satellite and through local reception; local and long distance telephone services; Internet access; and 24-hour apartment alarm monitoring service. Increasingly, competing suppliers offer combined services to MDU subscribers over partially or wholly unified distribution facilities, both outside and, except for telephone services, within the MDU. DBS services, moreover, are beginning to supply programming to MVPDs serving MDUs and to offer programming to MDUs directly.⁴⁷² In addition, entities with large numbers of subscribers in multiple properties across different states, such as national property management firms, are beginning to negotiate for multichannel programming services on a nationwide basis, bringing additional bargaining power to their negotiations with MVPDs.⁴⁷³

131. *Firms Serving Primarily MDUs.* RCN, OpTel and Cable Plus each serves high density areas and MDUs, generally using distribution systems that are not subject to cable franchise regulations.⁴⁷⁴ RCN

⁴⁶⁷Liberty Comments in CS Docket No. 95-184 (inside wiring) at Tables 1-4 (citing 1990 data from the Bureau of the Census). There are more than 13.2 million units in MDUs with more than ten units. OpTel, Inc., Form 10-K (filed Nov. 26, 1997, for year ending August 31, 1997), SEC file 333-24881 ("OpTel 10-K, Nov. 26, 1997") (citing 1990 Bureau of Census data).

⁴⁶⁸47 U.S.C. § 543(d) (allowing cable operators' non-uniform, non-predatory pricing to in-franchise-area MDUs).

⁴⁶⁹*See, e.g.*, US West Comments at 14.

⁴⁷⁰*Cable Home Wiring*, CS Docket No. 95-184 and MM Docket No. 92-260, Report and Order and Second Further Notice of Proposed Rulemaking ("*Inside Wiring Order*"), FCC 97-376 (released Oct. 17, 1997). *See paras.* 219-221 *infra*.

⁴⁷¹*See, e.g.*, US West Comments at 13 (US West's cable subsidiary, MediaOne, serving areas in and outside US West's telephone service area, faces competition from more than a dozen SMATV providers in Florida, more than 30 in Georgia, a dozen in California, approximately six in Illinois, and more than five in New England).

⁴⁷²DIRECTV Comments at 9.

⁴⁷³*Id.* at 13-14.

⁴⁷⁴Unless indicated otherwise, RCN, OpTel and Cable Plus information in this MDU discussion is from the following sources, respectively: RCN Corp., Filing 10-12G, SEC File No. 000-22825 (filed Sept. 5, 1997) ("RCN Filing 10-12G, Sept. 5, 1997"); OpTel, Inc., Form 10-K (year ending August 31, 1997), SEC File No. 333-24881

(continued...)

is deploying fiber optic networks to deliver these services, and, as of June 1997, had connected 310 buildings in New York City and 52 buildings in Boston to its facilities.⁴⁷⁵ RCN currently has two video headends within its advanced fiber optic networks in New York City and Boston, and uses 750 MHz of each system's available bandwidth for a video distribution capability of up to 110 video channels.⁴⁷⁶ For voice services, RCN's fiber optic networks in New York City and Boston support both switched services and features, such as ISDN, Custom Calling and CLASS, and non-switched (private line) services, including DS-1 and digital data.⁴⁷⁷

132. RCN typically enters into five to ten year access agreements with the owners/managers of MDUs. These agreements generally provide for non-exclusive access, but for exclusive marketing assistance from the building management.⁴⁷⁸ RCN may negotiate a payment to the building owner in the form of a percentage of revenue or a reduced rate for services. RCN also uses bulk service agreements to provide services (generally video services) at a flat subscription rate for all units in the residential building or institution

⁴⁷⁴(...continued)

(filed Nov. 26, 1997) ("OpTel 10-K, Nov. 26, 1997"); Telephone interview with Darla Norris, Vice President-Finance, Cable Plus (Oct. 24, 1997) ("Cable Plus Interview"). These firms generally distribute video programming over SMATV systems, *id.*; OpTel 8-K, Aug. 4, 1997; *see paras.* 82-83 *supra* (discussing inapplicability of franchise requirements to SMATV; use of 18 GHz point-to-point microwave transmission and wire connections of multiple owners' adjacent properties to connect MDU systems without crossing public rights of way). RCN also operates OVS systems and cable systems, RCN SEC Filing 10-12G, Sept. 5, 1997, and OpTel also operates a cable system, OpTel Form 10-K, Nov. 26, 1997. *See paras.* 116-117 *supra* (discussing OVS operators, including RCN); § 653(c)(1)(C), 47 U.S.C. § 573 (franchising requirements not applicable to OVS); *see also 1996 Report*, 12 FCC Rcd at 4364-5, 4395-6, 4400-1 ¶¶ 6, 68-9, 76 (discussing OVS).

⁴⁷⁵RCN SEC Filing 10-12G, Sept. 5, 1997. RCN has announced that it will provide MVPD services in Boston through franchised cable systems. RCN's activities in Boston are in partnership with Boston Edison Company. RCN intends to serve commercial accounts on or near its networks. RCN recently announced that it plans to develop an advanced fiber network in the Washington, D.C., area through a joint venture with PEPCO. *Id.* *See also* Testimony of Richard S. Hahn, Vice President, Boston Edison Company, before the United States House of Representatives, Commerce Committee Subcommittee on Telecommunications, Trade, and Consumer Protection, July 29, 1997, 1997 WL 442601 (F.D.C.H.).

⁴⁷⁶RCN SEC Filing 10-12G, Sept. 5, 1997. RCN has announced that, through an arrangement with DIRECTV, RCN customers in MDUs will have access to a combined 250 channels of programming service including exclusive sports programming. *See* RCN/DIRECTV News Release, October 2, 1996; DIRECTV Reply Comments in IB Docket No. 95-59.

⁴⁷⁷RCN SEC Filing 10-12G, Sept. 5, 1997. For voice services, where fiber extensions are not yet available, interim facility connections are provided by leasing special access facilities from MFS/WorldCom or the incumbent LEC. Within a building (or small grouping of buildings), a voice service hub is established by installing an Integrated Digital Loop Carrier ("IDLC") device that acts as the point of interface between the backbone facility and the intra-building wiring. Internal wiring (twisted pair copper cable) connects the IDLC to the customer premises and the customer-owned telephone equipment. *Id.*

⁴⁷⁸*Id.*

as an entry tactic, although future agreements are likely to provide for the purchase of services on an individual basis.⁴⁷⁹

133. OpTel supplies SMATV multichannel video programming and, increasingly, telephone services to residents of MDUs under building-entry agreements with MDU owners.⁴⁸⁰ As of August 1997, the company had 132,556 cable television subscribers, making OpTel the largest provider of private cable television services in the United States, and 6,825 telecommunications subscribers with 8,190 telephone lines.⁴⁸¹ OpTel seeks to offer a complete package of MVPD and telecommunications services and intends to continue its investment in bi-directional fiber optic and microwave networks, believing this to be the optimal means for delivering both MVPD and telecommunications services.⁴⁸²

134. OpTel provides video programming to MDUs through 18 GHz building-to-building microwave and fiber optic networks, and through non-networked SMATV systems, generally providing up to 72 channels of video programming.⁴⁸³ The company provides shared tenant services ("STS") telephone services through private branch exchange ("PBX") switches. OpTel intends to convert substantially all of its SMATV systems to 18 GHz or fiber optic networks by the end of fiscal 1999, to provide Competitive Local Exchange Carrier ("CLEC") telephone services in all of its markets by the end of fiscal 1999, and to convert all of its PBX switches to central office switches by the end of fiscal 2002.⁴⁸⁴ The company intends to modify its existing networks, currently used to provide video programming, to accommodate two-way digital telecommunications traffic so as to connect its MDUs to its planned central office switches in each of its markets. The company intends to use its existing network configuration if feasible and to supplement its microwave plant if necessary,

⁴⁷⁹*Id.*

⁴⁸⁰OpTel 10-K, Nov. 26, 1997, at 4. For regulatory purposes, OpTel "is considered to be a private cable television operator in most of the markets it serves. Private cable television operators deliver services to consumers without hard-wire crossings of public rights of way." *Id.*

⁴⁸¹*Id.*

⁴⁸²*Id.* at 4, 9.

⁴⁸³*Id.* at 4. As of August 1997, OpTel had 35 18 GHz networks and one fiber optic network in service in 11 metropolitan areas. On average, 54% of the units passed by OpTel were served by OpTel networks. *Id.*

⁴⁸⁴*Id.* at 5, 7-8, 11. OpTel provides local and long distance services as a CLEC in Houston through a central office switch, its first, installed in October 1997. OpTel plans soon to expand its CLEC services to replace its remaining STS/PBX services in Houston, and to route the additional traffic through its central office switch. *Id.* OpTel currently operates in and plans to remain in Houston, Dallas-Ft. Worth, Chicago, Phoenix, San Diego-Los Angeles, San Francisco, Denver, Miami-Ft. Lauderdale. The company plans to divest its Tampa and Austin operations. *Id.* at 7-9.

including through the use of other available radio spectrum for telecommunications services.⁴⁸⁵ The company also plans to offer Internet access, intrusion alarm, utility monitoring, PCS, cellular and paging services.⁴⁸⁶

135. OpTel provides services principally under long-term right-of-entry contracts with owners of national, regional and local MDU holdings, as well as with institutions (e.g., hospitals and hotels). The company's agreements with MDU owners typically have original terms of ten to fifteen years, prohibit tenants from installing receiving equipment on the exterior of the building, and, in the cases of telephone service agreements, provide that OpTel will be the exclusive provider of local telephone service to MDU residents, subject to the legal rights of the incumbent local exchange carrier and others to offer service, effectively making OpTel the exclusive multichannel video provider and the only wire-line alternative to the LEC for telecommunications services.⁴⁸⁷

136. Cable Plus offers SMATV multichannel video programming services, telephone and security services to 180,000 customers in MDUs in 18 states, and also plans to offer Internet access services.⁴⁸⁸ Cable Plus typically provides 40 to 60 channels of video programming that are delivered by satellite or, sometimes, by microwave links to MDU headends, generally using broadcast antennas to receive the local broadcast signals.⁴⁸⁹ Cable Plus generally signs exclusive, long-term (approximately 15 year) agreements with apartment owners (many of whom have extensive real estate holdings), who then offer Cable Plus' services to residents.⁴⁹⁰ Cable Plus plans to serve primarily concentrated clusters of multifamily housing units in growing areas.⁴⁹¹

137. *Cable Operator Services to MDUs.* Traditional franchised cable firms continue to compete for MDU business, but appear increasingly to be combining other services with their multichannel video offerings to MDUs. One of the largest cable MSOs, for example, Cox Communications, planned to begin offering cable programming, local and long distance telephone, and cable-modem Internet access services to

⁴⁸⁵*Id.* at 11. OpTel has commenced frequency coordination for such radio spectrum in Dallas. OpTel plans to supplement its own switching facilities, fiber optic network and microwave networks with switching and network capacity leased from other companies. *Id.* (noting also that the implementation of the company's telecommunications plans "will depend in some measure on the speed and manner in which states implement (i) the liberalized competition provisions of the Telecommunications Act, and (ii) the establishment of the interconnection and tariff requirements that the Telecommunications Act imposes on the incumbent LEC.")

⁴⁸⁶*Id.* at 9.

⁴⁸⁷*Id.* at 4, 14-16. The weighted average unexpired term of OpTel's cable television rights of entry was approximately eight years as of August 31, 1997, *Id.* at 4. Agreements affecting viewers' ability to install receiving equipment may be subject in certain circumstances to the Commission's rules limiting restrictions on over-the-air reception devices. *See paras. 212-218 infra.*

⁴⁸⁸Cable Plus Interview.

⁴⁸⁹*Id.*

⁴⁹⁰*Id.*

⁴⁹¹M. Sharon Baker, *Cable Plus gets \$55 M, plus allies*, Puget Sound Business Journal, Sept. 5, 1997, Vol. 18, No. 17.

the first of 25,000 MDU residents in Irvine, California, in the Fall, 1997.⁴⁹² Some cable firms offer price discounts for MDU service and enter into MDU service agreements providing various forms of exclusivity.

138. *LEC Service to MDUs.* Several LEC affiliates report that they are providing MVPD services to MDUs. For example, by the end of June 1997, Ameritech had reached agreements to provide cable television services to 673 MDUs (with 38,433 units) in communities in which it is a franchised cable operator.⁴⁹³ Of the 258 MDUs (with 40,698 units) in these communities that have declined Ameritech New Media's cable television service, 127 MDUs (with 22,215 units), or approximately one-half, have cited their exclusive agreements with other cable operators as the reason for failing to contract with Ameritech.⁴⁹⁴ Ameritech reports that incumbent cable operators have also impeded its ability to serve MDUs by refusing to make their existing wiring available to Ameritech in cases in which an MDU owner objects to the installation of redundant wiring.⁴⁹⁵

139. *DBS Service to the MDU Market.* DIRECTV, USSB, EchoStar and Primestar have recently begun to focus on the MDU market.⁴⁹⁶ For example, DIRECTV has entered into agreements to provide programming service directly to 150 private cable operators and has a non-exclusive agreement with WSNNet, a distributor of satellite programming packages, to make DIRECTV programming available nationwide to WSNNet's customer base.⁴⁹⁷ For private cable operators, such arrangements are expected to result in construction savings, the ability to offer more channels, and the ability to serve properties with fewer than 100 units.⁴⁹⁸ Primestar also plans to provide programming to SMATV operators and other interests, either as the sole program provider or as a supplementary program provider.⁴⁹⁹

⁴⁹²P.J. Huffstutter, *Cox Bundling Phone, Internet Services for Irvine Renters*, Los Angeles Times, Sept. 26, 1997, at B5.

⁴⁹³Ameritech Comments at 29.

⁴⁹⁴*Id.*

⁴⁹⁵*Id.* at 31.

⁴⁹⁶Monica Hogan, *DIRECTV Signs Miss. MDU Deal with Wireless One*, Multichannel News, Sep. 8, 1997, at 66; Monica Hogan, *TSAT Outlines PrimeStar's High-Power Plans*, Multichannel News, Aug. 18, 1997 at 61; DIRECTV Comments at 9; *See* para. 88 *supra*. MMDS and SMATV firms supplying DBS programming generally also provide local programming to their subscribers.

⁴⁹⁷Private Cable Investor, July 31, 1997, at 1.

⁴⁹⁸*Id.*

⁴⁹⁹Monica Hogan, *TSAT Outlines PrimeStar's High-Power Plans*, Multichannel News, Aug. 18, 1997 at 61.

4. *Regional Concentration of Cable Systems*

140. Clustering, a process by which MSOs consolidate system ownership within separate geographical regions,⁵⁰⁰ can have both procompetitive and anticompetitive effects. In response to the *Notice*, commenters reiterated arguments in favor of clustering's procompetitive effects. Clustering systems provides mechanisms to reduce costs and to improve operating and management efficiencies, to eliminate system redundancies and to attract more advertising.⁵⁰¹ The growing importance of advertising revenues for cable systems has emerged as a major factor promoting regional consolidation. By consolidating systems in major markets, MSOs can serve entire regions comprised of numerous local franchise areas. This assures advertisers that they will get extensive regional market coverage.⁵⁰² Finally, regional clustering may also enhance MSOs' ability to compete successfully in the future with LECs and major electric utilities as providers of data transmission and local telephone services.⁵⁰³ Commenters suggest that clustered systems increase cable operators' ability to be more competitive across a range of markets and technologies (e.g., video programming delivery, telecommunications, Internet access services) as "full service providers" in these markets.⁵⁰⁴

141. On the other hand, clustering raises certain anticompetitive concerns. Clustering eliminates operators of adjacent cable systems as potential overbuilders.⁵⁰⁵ These operators would be relatively low-cost potential wireline overbuilders -- because they could likely use their existing headend and parts of their existing trunk lines to serve the new markets -- compared to overbuilding a distant wireline system. The potential cost saving is significant because the headend and trunk lines comprise about 25% of the capital investment of a cable system.⁵⁰⁶ Overbuilding from adjoining franchise areas, however, has rarely been a significant means of entry into MVPD markets.⁵⁰⁷ In recent instances where overbuilding has occurred or is planned, the overbuilders (e.g., LECs) have not been the operators of existing adjacent cable systems.

142. *System Mergers and Acquisitions.* Since the last report, cable MSOs have undertaken or announced numerous system mergers, acquisitions and divestitures with the objective of creating regional

⁵⁰⁰David Waterman and Andrew A. Weiss, *Vertical Integration in Cable Television*, The MIT Press (1997) at 42.

⁵⁰¹*Upbeat WCS Panel Draws 100 Independent Operators*, Independent Cable News, Jan. 1997, at 1, 3.

⁵⁰²Joseph B. Cahill, *TCI Sets Its Sights on Chicago, Eyes MediaOne Deal*, Electronic Media, Aug. 18, 1997, at 4, 36.

⁵⁰³NCTA Reply Comments at 29-30; NCTA Comments at 37-38; *See 1996 Report* 12 FCC Rcd at 4428 ¶ 138.

⁵⁰⁴NCTA Comments at 37-38; Price Colman, *Charter on the Rise, Broadcasting & Cable*, Jun. 16, 1997, at 44; *Upbeat WCS Panel Draws 100 Independent Operators*, Independent Cable News, Jan. 1997, at 1, 3; *See 1996 Report*, 12 FCC Rcd at 4427-28 ¶ 137-38.

⁵⁰⁵*1994 Report*, 9 FCC Rcd at 7519 ¶ 154.

⁵⁰⁶*Id.* n. 421.

⁵⁰⁷*1995 Report*, 11 FCC Rcd at 2078 ¶ 44.

"clusters" of contiguous cable systems.⁵⁰⁸ In 1996, there were more than 100 cable transactions. Most of these transactions resulted in the expansion of existing clusters of cable systems.⁵⁰⁹ These transactions totalled approximately \$16.3 billion, and covered 7.8 million subscribers.⁵¹⁰ A similar pattern seems to be emerging in 1997. In the first nine months of 1997, cable transactions have been proposed which, if consummated, will total more than \$13.2 billion and cover approximately 6.9 million subscribers.⁵¹¹ TCI is involved in proposed transactions totalling \$9.4 billion or 71.2% of the \$13.2 billion total.

143. The number of clusters serving at least 100,000 subscribers increased from 137 at the end of 1995 to 139 at the end of 1996.⁵¹² In 1995, these clusters accounted for about 31.2 million or 50.2% of the 62.1 million cable subscribers. In 1996, these clusters included 33.6 million subscribers, and represented 52.9% of the 63.5 million cable subscribers. Among the five largest MSOs, Time Warner had 31 clusters, TCI had 30 clusters, MediaOne had 14 clusters, Comcast had nine clusters and Cox had nine clusters.⁵¹³ Smaller MSOs continued to expand their clusters too.⁵¹⁴ Jones Intercable (with 1.5 million subscribers) had four clusters of 100,000 or more subscribers, and Suburban Cable (with 1 million subscribers), Charter Communications (with 0.9 million subscribers), Marcus Cable (with 1.3 million subscribers) and FrontierVision (with 0.4 million subscribers) each had two clusters.⁵¹⁵

144. Although the total number of clusters did not increase significantly since the last report, there appears to be a trend for clusters to be increasing in size. This tendency toward larger clusters may reflect greater economies of scale.⁵¹⁶ Between 1994 and 1995, the total number of clusters increased from 97 to 137, an increase of about 41%. The number of clusters in each of the five size categories increased by at least 30%. In contrast, the corresponding increase in the total number of clusters between 1995 and 1996 is only two, or an increase of 1.5%. The number of clusters with 100,00 to 199,000 subscribers remained unchanged. During this same time period, however, the number of clusters with 300,000 to 399,000 subscribers increased by 38% and the number of clusters with at least 500,000 subscribers increased by 20%.

⁵⁰⁸*Id.* at 2128 ¶ 142; *1996 Report*, 12 FCC Rcd at 4427 ¶ 137.

⁵⁰⁹ See Table E-2.

⁵¹⁰ Paul Kagan Associates, Inc., *Cable TV System Sales 1996*, Cable TV Financial Databook, 1996, at 162.

⁵¹¹ See Table E-7. Table E-7 also shows that there have been an estimated 80 mergers, acquisitions and trades that have been announced or consummated that would affect nearly 7.2 million subscribers since the *1996 Report*.

⁵¹² See Table E-2.

⁵¹³ Paul Kagan Associates, Inc., *Major Cable TV Systems Cluster*, Cable TV Financial Databook, 1997, at 39-41; *Top Cable System Operators*, Cable TV Financial Databook, 1997, at 17-18; and Suburban Cable Web site <http://www.suburban.com/website>.

⁵¹⁴ *1995 Report*, 11 FCC Rcd at 2129 ¶ 143; Paul Kagan Associates, Inc., *Rural/Small MSOs Charge Spurred by Private Equity Partners*, Cable TV Investor, Dec. 18, 1995, at 7.

⁵¹⁵ Paul Kagan Associates, Inc., Cable TV Financial Databook, 1997, at 39-41.

⁵¹⁶ See Table E-2 for the total number of clusters and subscribers..

145. The plans of TCI, Time Warner, and the other large MSOs to consolidate and cluster their systems, if realized, are likely to have a significant impact on the cable industry.⁵¹⁷ TCI, in particular, has proposed a number of consolidations with several of the largest MSOs this year in furtherance of a clustering strategy.⁵¹⁸ For example, TCI plans to sell its systems in the New York City area with 820,000 subscribers to Cablevision in exchange for a one-third equity interest in Cablevision. If consummated, the proposed transactions between TCI and Cablevision's New York area cluster will result in the nation's largest cluster, with 2.5 million subscribers.⁵¹⁹ In another proposed transaction TCI would acquire a 40% interest in a joint venture with Falcon. The transaction would combine TCI's systems in six states with an aggregate 300,000 subscribers, with Falcon's 700,000 subscribers in 26 states. TCI and Adelphia are planning to create a major cluster in Pennsylvania, New York, and Ohio by consolidating their systems serving 466,000 subscribers in those three states.⁵²⁰ Mediacom, for example,⁵²¹ is planning to purchase Cablevision's equity interest in US Cable. The proposed transaction would add 265,000 subscribers in ten states to Mediacom's system clusters in Florida, Missouri and North Carolina. This acquisition would raise Mediacom's present subscriber base from 95,000 subscribers to 360,000 subscribers, making it one of the top 20 cable MSOs.⁵²²

146. Aside from the transactions of TCI and the other major MSOs, many industry analysts believe that a significant number of future mergers and acquisitions will involve systems located in communities outside of the major urban regions, including rural areas.⁵²³ Like the larger MSOs, the mid-size MSOs are focusing on specific markets.⁵²⁴ For example, CableVision Communications, formerly Rifkin & Associates, plans to acquire more systems with approximately 12,000 subscribers.⁵²⁵ Insight Communications ("Insight") is also acquiring cable systems in communities outside the major metropolitan markets.

147. *System Trades.* System-for-system "swaps" or trades between MSOs, both large and small, continue. Swaps enable MSOs to increase their regional clusters while minimizing the financial outlays and

⁵¹⁷Price Colman, *Station & Cable Trading, Cable's \$23 Billion-Plus Year*, Broadcasting & Cable, Feb. 3, 1997, at 20.

⁵¹⁸Table E-6 summarizes the major acquisitions and joint ventures that have been announced by TCI this year.

⁵¹⁹WCAI Comments at 4; Bell Atlantic Comments at 4-5; BellSouth Comments at 4-5.

⁵²⁰WCAI Comments at 4; BellSouth Comments at 4-5; Bell Atlantic Comments at 4-5.

⁵²¹Table E-7 reports consummated and announced cable transactions.

⁵²²*Mass Media*, Comm. Daily, Sept. 3, 1997.

⁵²³Paul Kagan Associates, Inc., *Giant-Sized Deals Generate Wall Street Business*, Cable TV Finance, June 30, 1997 at 8; Price Colman, *Station & Cable Trading, Cable's \$23 Billion-Plus Year*, Broadcasting & Cable, Feb. 3, 1997, at 20; and Kent Gibbons, *MSO's Clustering Efforts Extend Beyond Top 10*, Multichannel News, Sept. 1, 1997, at 31.

⁵²⁴*Id.*

⁵²⁵Charles Paikert, *Rifkin Rolls Out New Look, Plans and Services*, Multichannel News, July 7, 1997, at 26.

avoiding capital gains taxes.⁵²⁶ Since the *1996 Report*, the largest proposed system-for-system swaps are between TCI and Time Warner, Time Warner and Cox, Time Warner and Marcus Cable, and Cox and Insight.⁵²⁷ These include TCI's proposal to trade systems in Florida for several Time Warner systems in Chicago, New Jersey and Pennsylvania, and to trade systems in Maine and Wisconsin for Time Warner systems in Illinois.⁵²⁸ Insight recently swapped its Phoenix area system with 36,000 subscribers for a Cox system with 40,000 subscribers in Lafayette, Indiana. Insight has agreed to purchase Cablevision's 65,000 subscriber system in Rockford, Illinois, as part of its strategy to expand holdings in second and third tier markets. If these acquisitions are consummated, Insight will have approximately 250,000 subscribers in eight states.⁵²⁹

148. *System Partnerships.* TCI also proposes to form partnerships with other MSOs. TCI's announced objectives are to restructure its systems into regional clusters managed by proven cable operators to improve the management of local sales and customer services. TCI's strategy is to create partnerships with the regions' dominant cable MSO and rely on that MSO to manage the system. TCI hopes to benefit by improving the management of its systems, lowering its own operating costs and removing debt from its balance sheets. For example, TCI and Time Warner propose to form two partnerships, one in south Texas and the other in Kansas City, Kansas. The south Texas partnership, which Time Warner would manage, would comprise systems with about one million subscribers in Houston and parts of southern Texas. The Kansas City partnership would enlarge on an existing joint venture by adding 95,000 TCI subscribers.⁵³⁰ TCI has also agreed to form a partnership with TCA Cable TV. TCA would manage the partnership. In exchange for a 20% equity share, TCI would contribute 150,000 subscribers from systems in Texas and western Louisiana plus approximately \$250 million in debt. TCA's contribution would include about 155,000 subscribers in New Mexico and \$45 million in debt.⁵³¹

5. Concentration in the National Market

⁵²⁶Price Colman, *Station & Cable Trading, Cable's \$23 Billion-Plus Year*, Broadcasting & Cable, Feb. 3, 1997, at 20. See *1996 Report*, 12 FCC Rcd at 4427-28 ¶¶ 137-38.

⁵²⁷See Table E-7. See also Paul Kagan Associates, Inc., *Cable TV Investor*, Apr. 30, 1997, at 11; Aug. 22, 1997, at 8; Sept. 10, 1997, at 4; *Cable TV Finance*, July 31, 1997, at 8.

⁵²⁸*TCI and Time Warner To Set Partnerships*, Swap Some Systems, Wall Street Journal, Sept. 3, 1997, at B8.

⁵²⁹Kent Gibbons, *Cablevision Sells Ill. System to Unload Debt*, Multichannel News, Aug. 18, 1997, at 12.

⁵³⁰Time Warner (press release), Sept. 3, 1997; and *TCI and Time Warner To Set Partnerships, Swap Some Systems*, Wall Street Journal, Sept. 3, 1997, at B8.

⁵³¹*Tele-Communications Inc. Venture with TCA Cable Is Part of Restructuring Effort*, Wall Street Journal, Aug. 18, 1997, at B7; *At Press Time, TCI, TCA Link Up*, Electronic Media, Aug. 18, 1997, at 40; *Swaps and Partnerships: TCI Communications, Inc. and TCA Cable*, Cable World, Aug. 25, 1997, at 45.

149. The 1992 Cable Act directs the Commission to place limits on the concentration of ownership of cable systems at the national level.⁵³² This direction reflects concerns that such concentration could have anticompetitive effects on the supply of programming to MVPDs and reduce the diversity of content available. For example, if a cable MSO controlled a large fraction of multichannel video programming distribution capacity or subscribers on a national level,⁵³³ it might be able to control the development of new programming networks, influence the content and limit the diversity on existing networks, and might be able to exercise buying power that would restrict the upstream national market for the provision of programming networks to all MVPDs.

150. In assessing the impact that national concentration may have in the MVPD programming market, we believe that it is appropriate to consider the presence of all MVPDs and MVPD subscribers in national concentration figures, and not just cable MSOs and cable subscribers.⁵³⁴ As non-cable MVPD subscribership increases, the significance of DBS, MMDS, and SMATV operators in the MVPD program purchasing market also increases. Nevertheless, cable operators continue to be the main distributors of multichannel video programming, serving 87% of total MVPD subscribers.⁵³⁵ Significantly, the rapid growth of DBS systems, such as DIRECTV/USSB and Primestar, has resulted in both being among the top ten MVPDs nationwide.⁵³⁶ However, despite the inroads non-cable MVPDs have made in subscriber penetration, the largest cable MSOs remain the largest MVPDs.

151. The share of subscribers of the top four MVPDs (the four largest cable MSOs) of the upstream nationwide MVPD programming market has increased slightly over the past year. In 1996, the four largest cable MSOs (TCI, Time Warner, MediaOne, and Comcast) served 53.3% of all MVPD subscribers.⁵³⁷ These four firms now serve 54.3% of all MVPD subscribers nationwide.⁵³⁸

⁵³²1992 Cable Act, § 11 (c) amending, Communications Act, § 613, 47 U.S.C. § 533.

⁵³³Many industry sources believe that 15 to 20 million subscribers are needed for long-term success. See paras. 155 and 165 *infra*.

⁵³⁴Since the Commission's inception of efforts to track cable industry MSO concentration, we have recognized that the specific characteristics of this market render a conventional analysis inappropriate. We provide the information again this year (summarized in Tables E-3 and E-4) simply for purposes of comparison to similar concentration figures provided in years past. Using this approach, the percentage of cable subscribers served by the four largest MSOs remained approximately the same at 62.3%, with TCI's subscriber share at 29.3%, Time Warner's subscriber share at 18.3%, MediaOne's subscriber share at 8.0%, and Comcast's subscriber share at 6.7%. Examination of changes in the national HHI for cable MSOs reveals a slight increase in concentration because the increase in market share by TCI and MediaOne was greater than the loss in market share by Time Warner and Comcast. The combined shares of all MSOs indicate a HHI of 1379 in 1997, a figure that increased from 1326 in 1996.

⁵³⁵See Table E-1

⁵³⁶See Table E-5.

⁵³⁷1996 Report, 12 FCC Rcd at 4499, App. F, Table 3.

⁵³⁸See Table E-5.

152. To assess the potential for market power resulting from concentration in the upstream MVPD programming market, the reported MVPD shares can be appropriately translated into HHI figures because MVPD programming networks are often purchased on a "per-subscriber" basis. The nationwide purchaser MVPD or HHI is 1166 -- "moderately concentrated" under the Merger Guidelines.⁵³⁹ The HHI is 153 points higher than the HHI of 1013 reported in last year's report.⁵⁴⁰

153. The above discussion and supporting tables⁵⁴¹ to the report set forth data on concentration in the cable market and in the MVPD market without the inclusion of a number of transactions that have been announced but have not yet been consummated. The transactions involved are principally those discussed in the preceding section⁵⁴² involving systems owned or controlled by TCI that will be transferred to or managed by another system operator with a large cluster of other systems in the region.⁵⁴³ These transaction have been articulated by TCI as being essentially a divestiture of systems, reducing TCI's level of system ownership by one-third.⁵⁴⁴ The transactions, however, generally involve TCI obtaining a financial interest in the MSO to whom the systems are transferred. For example, in the New York market TCI is transferring systems with 820,000 subscribers to Cablevision and is receiving in return a one-third equity interest in Cablevision.⁵⁴⁵ In a similar fashion, TCI is proposing to transfer management of a number of systems serving 300,000 subscribers to Falcon and will receive in return a 40% interest in the resulting joint venture.

154. Whether these transactions should be viewed as increasing or decreasing the size of TCI depends in part on the specific details of the transactions involved, which are not now before us and may not have been finalized. However, if the arrangements are such as to create attributable interests, the result would be a significant increase in TCI's share of the national market -- increasing its size by several million subscribers and giving it a market share that could exceed the "30 percent of homes passed" horizontal

⁵³⁹Table E-5. The Merger Guidelines are summarized at fn. 462 *supra*.

⁵⁴⁰1996 Report, 12 FCC Rcd at 4499, App. F, Table 3.

⁵⁴¹See Tables E-3, E-4, and E-5

⁵⁴²See para. 140 *supra*.

⁵⁴³See Tables E-6 and E-7.

⁵⁴⁴October 10, 1997 testimony of Leo Hindery, President of Telecommunications, Inc., before the Antitrust, Business Rights and Competition Subcommittee of the Senate Judiciary Committee ("When we have finished, TCI will have reduced its size by about 1/3 and it will no longer be the nation's largest cable operator.").

⁵⁴⁵According to the press release announcing this transaction, TCI would acquire shares representing 33% of Cablevision's total outstanding shares and would receive two seats on the Cablevision board of directors. The Dolan family interests, however, would continue in control of Cablevision. In the past, in several situations of significant size involving TCI, the Commission has been able to conclude that major ownerships held by TCI did not create attributable interests, at least for some purposes, because they were passive or non-controlling in nature. See *Applications of Roy M. Speer and Silver Management Company*, 11 FCC Rcd. 14147 (1996) (TCI nonvoting equity interest in broadcast station licensee not attributable for purposes of cable-television broadcast station cross-ownership rule); *Turner Broadcasting System and Time Warner*, 11 FCC Rcd 19595 (1996) (Approximately 9% non-voting interest of TCI in Time Warner not attributable for purposes of the horizontal ownership rule).

ownership rule adopted by the Commission pursuant to the 1992 Cable Act.⁵⁴⁶ This rule has been voluntarily stayed by the Commission⁵⁴⁷ in light of the decision in the *Daniels* case. Subsequently, the D.C. Circuit held in abeyance its review of the horizontal ownership provision of the Communications Act, and the Commission's rules promulgated thereunder, pending the Commission's reconsideration of its rules.⁵⁴⁸

155. Conventional understanding in the cable industry appears to be that a successful launch of a new mass market, advertisers supported, national programming network -- that is, the initial subscriber requirement for long-term success -- requires that the new channel be available to at least fifteen to twenty million households. Non-cable MVPDs, i.e., DBS/HSD, SMATV, MMDS, and OVS, currently serve about 9.5 million subscribers nationwide,⁵⁴⁹ a figure that appears to be too small an audience in most circumstances to provide programmers a distribution mechanism that can substitute for cable. One limitation on non-cable MVPDs is that they may serve a substantial number of rural areas that may represent lower valued markets from the point of view of national advertisers. Notwithstanding this conventional understanding of what is required to support a new national service, clearly many local and regional services exist with a smaller subscriber base. Moreover, some programming, including in particular sports programming, that is offered by DBS operators is unique to the DBS market. As these non-cable distribution channels continue to grow, it is likely that they will mitigate to some extent the dependence of programming networks on cable MSOs.

156. Our reexamination of the upstream national MVPD concentration reveals a moderate but stable level of concentration for purchases of video programming channels. Continued non-cable MVPD growth, especially from DBS and wireless providers, however, may decrease national HHI concentration levels in the future. In downstream local markets for delivered video programming, however, our concentration estimates continue to suggest that local markets remain highly concentrated.

⁵⁴⁶47 C.F.R. §76.503. The rule, it should be emphasized, limits an operator to 30% of all homes passed nationwide through cable systems. The data discussed above are generally in terms of subscriber rather than homes passed. While some correlation exists between subscribers and homes, they are not exactly parallel.

⁵⁴⁷See *Implementation of Sections 11 and 13 of the Cable Television Consumer Protection and Competition Act of 1992, Horizontal and Vertical Ownership Limits*, MM Dkt. No. 92-264, Second Report and Order, 8 FCC rcd 8565, 8567 ¶ 3 (1993).

⁵⁴⁸*Daniels Cablevision, Inc. v. United States*, 835 F. Supp. 1, 10 (D.D.C. 1993), *aff'd in part, Time Warner Entertainment Co., L.P. v. FCC*, 93 F.3d 957 (D.C. Cir. 1996). The *Daniels* case involved a direct challenge to the statute. Time Warner challenged the stayed rules in *Time Warner Entertainment Co., L.P. v. FCC*, No. 94-1035. The D.C. Circuit Court consolidated the *Daniels* appeal regarding the facial validity of the statute and the Time Warner challenge to the Commission's rules and determined to hold court proceedings in abeyance while the Commission considered petitions for reconsideration of the rules. See *Time Warner Entertainment Co., L.P. v. FCC*, 93 F. 3d 957, 979-80 (D.C. Cir. 1996). A petition is pending before the Commission, filed by The Center for Media Education and the Consumer Federal of America, requesting that the stay be lifted.

⁵⁴⁹See Table E-1.

B. VERTICAL INTEGRATION AND OTHER PROGRAMMING ISSUES

I. *Status of Vertical Integration*

157. This section addresses the extent to which video programming services are affiliated with cable operators.⁵⁵⁰ As we have noted in previous reports, although vertical relationships can have beneficial effects,⁵⁵¹ under certain market conditions, strategic vertical restraints (achieved by exclusive distribution contracts or monopsonistic pressure) can also deter entry and competition in the video marketplace, and can limit the diversity of cable programming, reducing the number of voices available to the public.⁵⁵²

158. During 1997, the number of both vertically and non-vertically integrated national satellite-delivered cable programming services increased. Of the 172 national satellite-delivered cable programming services, 68 (40%) are vertically integrated with at least one MSO, and 104 (60%) are not.⁵⁵³ In 1996, of the 147 national satellite-delivered cable programming services reported, 67 (46%) were vertically integrated and 80 (54%) were not.⁵⁵⁴ Thus, while the number of vertically integrated programming services has increased, the percentage of vertically integrated programming, relative to the total number of national, satellite-delivered programming services, declined from 1996 to 1997. This percentage has also declined in recent years; in the *1995 Report* we reported that 51% (66 of 129) of national satellite-delivered cable programming services were vertically integrated,⁵⁵⁵ and the *1994 Report* reported that 53% (56 of 106) of national satellite-delivered cable programming services were vertically integrated.⁵⁵⁶

159. Overall, vertically integrated ownership interests have increased from 1996. In 1996, cable MSOs, either individually or collectively, owned 50% or more of 47 national cable programming networks. In 1997, cable MSOs own 50% or more of 50 networks.⁵⁵⁷

⁵⁵⁰Vertical integration occurs where a cable system (a video programming service distributor) has an ownership interest in a video programming service supplier or vice versa. *1996 Report*, 12 FCC Rcd at 4429 n.398.

⁵⁵¹Such pro-competitive effects can include efficiencies in the production, distribution and marketing of video programming, and incentives to expand channel capacity and create new programming by spreading the risk inherent in program production ventures. See e.g., H.R. Rep. No. 862, 102nd Cong., 2d Sess. 56 at 41-43 (1992).

⁵⁵²*1995 Report*, 11 FCC Rcd at 2135 ¶ 158; *Vertical Ownership Limits*, MM Docket 92-264, Memorandum Opinion and Order on Reconsideration of the Second Report and Order, 10 FCC Rcd 7364, 7365 ¶ 4 (1995).

⁵⁵³The number of vertically and non-vertically integrated national satellite-delivered programming services reported accounts for the sale of Viacom cable systems to TCI on July 23, 1996.

⁵⁵⁴*1996 Report*, 12 FCC Rcd at 4509-16 App. G, Tbls. 1-2. The number of vertically and non-vertically integrated national satellite-delivered programming services reported in the *1996 Report* reflected the sale of Viacom cable systems to TCI on July 23, 1996.

⁵⁵⁵*1995 Report*, 11 FCC Rcd at 2132 ¶ 150.

⁵⁵⁶*1994 Report*, 9 FCC Rcd at 7522 ¶ 161.

⁵⁵⁷*Compare 1996 Report*, 12 FCC Rcd at 4509-12 App. G, Tbl.1 with *infra* App. F, Tbl. F-1.

160. In 1997, 26 of the 50 most subscribed to cable programming networks are vertically integrated. Two of the top 50 services (C-SPAN and C-SPAN 2), while not owned by cable operators, were developed with significant involvement by the cable industry.⁵⁵⁸ In terms of prime time ratings, eight of the top 15 cable programming networks are vertically integrated,⁵⁵⁹ as was the case last year.⁵⁶⁰

161. Vertical integration in national cable programming continues to involve principally the largest cable system operators. The eight largest cable MSOs have a stake in all of the 68 vertically-integrated services.⁵⁶¹ TCI, the largest MSO, holds ownership interests in 39 of the 172 national programming services, 23% of all national cable programming networks.⁵⁶² In 1996, TCI also held interests in 23% of all national programming services (34 of 147 national programming services). Time Warner, the nation's second largest MSO, holds interests in 20 of the 172 national programming services, or 12% of all national programming services,⁵⁶³ a decrease from 1996 when Time Warner owned 22 of 147 (or 15%) of all national programming services.⁵⁶⁴

162. The data set forth above generally identifies vertical ownership relationship by reference to the ownership attribution standards associated with the Commission's horizontal and vertical (channel occupancy) rules.⁵⁶⁵ For these purposes, equity interests that carry no present voting rights are not considered to be attributable. For other purposes, such as the program access rules, a more inclusive standard is employed so that any stock interest, voting or nonvoting, creates a cognizable ownership interest.⁵⁶⁶ Using this more inclusive attribution standard, the recently announced transaction to bring the Seagram (Universal Studios) cable networks under the control of HSN Inc. would apparently result in both the USA Network and the SCI-FI Network being considered vertically integrated.⁵⁶⁷

⁵⁵⁸C-SPAN and C-SPAN 2 are non-profit cable networks, receiving funding through system operators and other MVPDs that provide support on a per-subscriber basis.

⁵⁵⁹App. F, Tbl. F-7.

⁵⁶⁰1996 Report, 12 FCC Rcd at 4528, App. F, Tbl. F-7.

⁵⁶¹App. F, Tbl. F-5.

⁵⁶²App. F, Tbls. F-1, F-5.

⁵⁶³*Id.*

⁵⁶⁴1995 Report, 11 FCC Rcd at 2132-33 ¶ 152.

⁵⁶⁵See 47 C.F.R. § 76.503, 47 C.F.R. § 76.504.

⁵⁶⁶See 47 C.F.R. Section 76.1000(b).

⁵⁶⁷Liberty Media, a wholly owned subsidiary of TCI, would own 15% of HSN Inc. and would have a right to increase this interest to 25%. Barry Diller, Chairman and Chief Executive Officer of HSN would be entitled to exercise voting rights over all HSN securities owned by Liberty. If this is correct, then these services would be covered by the program access rules that apply to vertically integrated cable satellite programming services. See HSN SEC Form 8-K, filed October 20, 1997.

163. In 1997, 77 services reportedly intended to begin offering new programming service,⁵⁶⁸ most of which do not have MSO affiliations. Many of these services were also included in the *1996 Report* as planning program launches. In the *1996 Report*, we reported that 63 prospective services intended to begin offering programming service.⁵⁶⁹ Of these 63, the Commission is aware of 16 programming service launches that have occurred since the release of the *1996 Report*. Eight of the launched programming services are vertically integrated with an MSO, and eight are not.⁵⁷⁰ Although not vertically integrated with cable system operators, four of the eight non-vertically integrated programming networks are associated with other significant media owners. M2 Music TV is affiliated with Viacom, while Fox News Channel, CBS Eye on People, and CBS TeleNoticias are affiliated with their respective broadcast parent companies.

164. There is a general trend by existing service providers, regardless of whether they are vertically integrated with MSOs, to create additional programming services. For example, five recent network launches by The Discovery Channel, which is affiliated with TCI and Cox Communications, include Animal Planet, Civilization, Kids, Science, and Travel and Living. CNN, affiliated with Time Warner, recently launched CNN/SI. Viacom and the Walt Disney Company ("Disney") are each major program providers that do not hold interests in MVPDs. Viacom's MTV recently launched M2 and Disney's ESPN recently launched ESPNEWS.

165. New networks must make significant investments in order to build a network that will be attractive to MVPDs and to subscribers. The comprehensive costs of launching a new national cable network are estimated at approximately \$100 to \$125 million, or more.⁵⁷¹ New programming networks generally operate at a loss for a number of years, and due to the direct link between revenue amounts and penetration levels, conventional wisdom is that new advertiser supported networks generally do not break-even until they are available to at least 15 to 20 million subscribers.⁵⁷²

2. *Other Programming Issues*

166. *Sports Programming.* Sports programming is identified by a number of parties filing comments in this proceeding as warranting special attention. ESPN, a programming service of Disney, is one of the most successful cable programming service in terms of circulation and revenues and has been the principal supplier of sports programming for cable television and MVPD distribution. During 1997, the consolidation of a number of regional sports outlets under common ownership by Cablevision, TCI's Liberty Media Corp., News Corp., and Comcast, has created a potential rival to ESPN as a national source of sports programming. Specifically, Cablevision acquired from its partner, ITT Corp., the remaining half interest in

⁵⁶⁸App. F, Tbl. F-4.

⁵⁶⁹*1996 Report*, 12 FCC Rcd at 4517-20 App. F, Tbls. F-3, F-4.

⁵⁷⁰App. F, Tbls. F-1, F-5. App. F, Tbl. F-2 lists existing national programming services without a cable operator holding an attributable interest.

⁵⁷¹See Joint Comments of Outdoor Life Network, Speedvision Network, The Golf Channel, BET on Jazz and America's Health Network in the Matter of Closed Captioning and Video Description of Video Programming, MM Docket No. 95-176, at 10 (filed Feb. 28, 1997).

⁵⁷²*Id.* at 36.

Madison Square Garden, the MSG Network, and the New York Knicks and New York Rangers teams.⁵⁷³ Subsequently, the Fox Sports Net, a joint venture between TCI's Liberty Media Corp. and News Corp., purchased 40 percent of Cablevision's SportsChannel regional networks.⁵⁷⁴ The eight Fox/Liberty regional sports networks and the seven SportsChannel regional services together will reach 55 million cable subscribers in 17 major markets.⁵⁷⁵ In contrast to ESPN's national programming, Fox Sports Net intends to offer home games to viewers in local markets and supplement these with national material.⁵⁷⁶ Comcast, which is a major supplier of cable television service in the Philadelphia market, created a regional network that will be a major supplier of cable television sports in the Philadelphia area, which will have access to programming produced by Fox Sports Net.⁵⁷⁷

167. Some commenters in this proceeding express concern that ownership of regional sports programming is becoming increasingly consolidated with cable MSOs and other significant media interests. Ameritech states that access to sports programming is so essential to the success of a cable system that many operators will pay exorbitant prices and agree to entertain other less attractive business arrangements just to obtain it.⁵⁷⁸ Bell Atlantic states that access to regional sports programming is vital to new entrants in order to compete with incumbent cable operators, and that more and more key programming is controlled by a few of the largest cable MSOs.⁵⁷⁹ WCAI states that Cablevision is vertically integrated from top to bottom, owning the facilities where programming is created (Madison Square Garden), the program content itself (the Knicks and the Rangers), the cable programming services that transmit that program content (the MSG and SportsChannel networks) and the cable systems that will retransmit that program content in the New York market.⁵⁸⁰ Some commenters note that new entrants, such as DIRECTV, have benefitted from sports programming, such as DIRECTV's exclusive NFL football package, that are not available to cable operators.⁵⁸¹ NCTA believes that the high cost of sports programming contributes to higher cable television programming rates.⁵⁸²

⁵⁷³WCAI Comments at 5.

⁵⁷⁴Thomas Umstead, *Fox Builds Sports Empire*, Multichannel News, June 23, 1997, at 1.

⁵⁷⁵*Id.*

⁵⁷⁶Mark Landler, *Sports Networks Ready to Rumble*, New York Times, Sept. 28, 1997, Week in Review at 3.

⁵⁷⁷In 1996, Comcast became owner of the Philadelphia 76ers basketball team and Philadelphia Flyers hockey franchises. *The New Establishment*, Vanity Fair, Oct. 1997, at 166.

⁵⁷⁸Ameritech Comments at 38.

⁵⁷⁹Bell Atlantic Comments at 3.

⁵⁸⁰WCAI Comments at 5.

⁵⁸¹NCTA Reply Comments at 26-27.

⁵⁸²Testimony of Decker Anstrom, President, at the December 18, 1997 Commission meeting; Kagan Media Appraisals, Inc., *TV Programming Costs; An Analysis of the Market Forces Driving Entertainment and Sports Rights Fees*, December 1997.

168. *News Programming.* Another form of regional programming that is experiencing growth is news programming. There are more than 25 local news networks in the United States, approximately 12 of which are cable channels programmed by local TV stations that offer regional news.⁵⁸³ Twenty-four hour local news services are competing for ratings with CNN and broadcast stations in their markets.⁵⁸⁴ A regional news channel in a major market can cost between \$15 and \$20 million a year to operate, and cable operator license fees and advertising revenues have recently begun to cover more of the channels' operating costs.⁵⁸⁵ New England News (a regional news channel), for example, receives 60% of its revenues from subscriber fees from cable operators, charging nearly as much as CNN.⁵⁸⁶ While some analysts believe that regional news programming has not yet reached "critical mass," many predict that regional news programs could become a significant competitive force in the video programming marketplace.⁵⁸⁷

169. *Regulatory Issues Related to Program Access, Carriage Rules.*⁵⁸⁸ The Commission established rules pursuant to the 1992 Cable Act concerning programming arrangements between MVPDs and satellite-delivered programming vendors (the "program access" rules).⁵⁸⁹ These rules prohibit unfair competition and discriminatory practices by cable operators and certain vertically-integrated programmers that may deter competition from other MVPDs.⁵⁹⁰ The program access rules also prohibit exclusive distribution contracts for satellite cable or broadcast programming between vertically integrated cable operators and programmers, unless the parties can demonstrate to the Commission that the contract is in the public interest.⁵⁹¹

170. In addition, in response to the *Notice*, the Alliance states that local, noncommercial programming (often referred to as public, educational, and governmental ("PEG") programming) is often the only truly local programming received by subscribers. The Alliance states that such is the case in smaller and rural towns, and that in large urban areas, PEG access provides a variety and diversity of communication that is unavailable on commercial local stations.⁵⁹² Cable operators do not have ownership interests in PEG

⁵⁸³See NCTA, *Regional Video Services*, Cable Television Developments, Spring 1997 at 96-114; John Dempsey and Gary Levin, *News Derby Upset by Dark Horse*, Variety, September 22-28, 1997, at 1.

⁵⁸⁴Variety, *News Derby Upset by Dark Horse*, John Dempsey and Gary Levin, September 22-28, 1997, at 71.

⁵⁸⁵*Id.*

⁵⁸⁶*Id.*

⁵⁸⁷*Id.*

⁵⁸⁸See paras. 229-238 *infra*.

⁵⁸⁹The Commission's program access rules are set forth at 47 C.F.R. §§ 76.1000-76.1003, and the program carriage rules are set forth at 47 C.F.R. §§ 76.1300-76.1302. See also 47 U.S.C. § 536(a)(2); 47 U.S.C. § 548.

⁵⁹⁰1995 Report, 11 FCC Rcd at 2155 ¶ 157; 1994 Report, 9 FCC Rcd at 7520-22 ¶¶ 157-60, 7528-30 ¶¶ 173-78.

⁵⁹¹47 C.F.R. § 76.1002(c)(2).

⁵⁹²Alliance Comments at 2.

programming, though under some franchise agreements, they may provide services, facilities and equipment to make such programming available. All PEG programming is therefore considered to be non-vertically integrated with MSOs. Alliance states that PEG programming channels are carried by 16% of the nation's cable systems⁵⁹³ and that PEG access centers throughout the nation produce more than 20,000 hours of original programming per week for cable system distribution.⁵⁹⁴

C. Technical Advances

171. In the *1996 Report*, we discussed the two general strategies MVPDs were using to increase capacity: upgrading wired network architecture and deploying digital compression.⁵⁹⁵ While cable operators have not abandoned plant upgrades, many cable systems are now favoring digital compression as the means to provide additional channels and ancillary services. Since the last report, TCI, the largest MSO in the cable industry has elected to use digital compression as its predominant means of expanding channel capacity on most of its systems.⁵⁹⁶ TCI intends to allocate some of its existing analog video channel bandwidth for digital video as well as for data and Internet services. In November 1997, Adelphia Communications launched digital cable to nearly 70% of its 1.8 million subscribers.⁵⁹⁷ Comcast, Cox, and Buford Television also have launched digital cable service on a limited basis. In addition, MediaOne, Cablevision Systems, Jones Intercable, and Century Communications have initiated trials of digital cable and Time Warner and Marcus Cable are planning market tests.⁵⁹⁸

172. Not upgrading or rebuilding existing cable plant has immediate cost advantages as well as increased speed of deployment. Relying solely on digital compression to add video channels will generally only require changing processing equipment at the cable system's headend and providing digital or hybrid analog/digital set-tops at the subscriber premises. Generally, those subscribers who want the new services will be provided with the new set-tops. Digital compression also does not incur the lengthy timetables needed for upgrading or replacing miles and miles of cable plant. With the advent of advanced digital compression techniques, cable operators now believe that the increases in bandwidth provided by rewiring and system upgrades may not be necessary to add a large number of channels.⁵⁹⁹ On the other hand, without the benefit

⁵⁹³*Id.* at 4.

⁵⁹⁴*Id.* at 2.

⁵⁹⁵*1996 Report*, 12 FCC Rcd at 4442-4 ¶¶ 171-179.

⁵⁹⁶*TCI to Go Mostly Digital*, TV Technology, June 1997, at 18.

⁵⁹⁷Price Colman, *Adelphia Plans Digital Blitz*, Broadcasting & Cable, Nov. 10, 1997, at 59. Adelphia also plans to proceed with 750 MHz upgrades. *Id.* at 60.

⁵⁹⁸*Id.* at 59. See also Joel Brinkley, *Cable TV in Digital Push To Get in More Channels*, New York Times, Nov. 10, 1997, at D7.

⁵⁹⁹*TCI Redefines Itself (Again)*, *Charts New Upgrade Path*, CED: Communications Engineering & Design, June 1997 at 74.

of rewiring and rebuilding of existing systems which, in general, modify the architecture of many existing cable plants, telephony and two-way services may be difficult to implement.⁶⁰⁰

173. In 1996, we reported that advanced compression techniques that could fit as many as 24 video channels in a 6 MHz analog channel (24:1 ratio) were being tested and that, in general, compression ratios had dramatically increased from the earlier 6:1 ratios that were prevalent.⁶⁰¹ One of the more significant advancements that enabled such a high channel compression ratio has been the development and refinement of a compression and combining technique called statistical multiplexing.⁶⁰²

174. TCI has embraced this advanced digital compression technique for its prepackaged programming service called Headend In the Sky ("HITS"), which allows cable operators to receive prepackaged digital video channels from a satellite and pass the signals directly through the cable plant to their subscribers.⁶⁰³ TCI is using NextLevel Systems Inc.'s statistical multiplexing technology which has a compression ratio of up to 14:1. This minimizes the need for expensive digital processing equipment in every cable system headend since the processing is done at TCI's satellite uplink facility, yielding economy of scale savings. However, new digital set-top boxes are required to receive HITS programming. Other cable operators, including MediaOne, Comcast, Cox, Adelphia, Jones Intercable, Century Communications and Buford Television are using or plan to use HITS.⁶⁰⁴

175. The new digital programming and ancillary data services require new set-top boxes.⁶⁰⁵ In an attempt to reduce cost and promote uniformity in set-top devices, Cable Television Laboratories, Inc. ("CableLabs") and its members have attempted to create standards for interoperable set-top boxes and the provision of a platform for the offering of new interactive services to cable customers.⁶⁰⁶ Further, after evaluating nearly two dozen computer industry proposals for set-top box technology, CableLabs voted not to

⁶⁰⁰*Dream Machine: HFC System Offers Telephony/Data/Cable*, Communications Technology, March 1997 at 40.

⁶⁰¹1996 Report, 12 FCC Rcd at 4443-4 ¶ 176.

⁶⁰²Unlike channel compression techniques that assign constant bit rates as high as 6 MBit/sec to all scenes within a video program, statistical multiplexing assigns bit rates as low as 1 MBit/sec to video programs. To compensate for complicated or rapidly changing scenes that require more than the 1 MBit/sec bit rate within a program, the scenes within a group of video programs are continuously analyzed at a high rate. Scenes that require higher bit rates than 1 MBit/sec are shifted to programs within the group that contain quiet scenes which are using lower bit/rates. In short, the bit/rate requirements for each scene in a program are actively managed and allocated throughout a group of programs to maximize the bit/rate use of the particular scene at a given time. Also see IMEDIA brochure: IMEDIAStatMux, *24 Digital Channels in the Space of a Single Analog Channel*.

⁶⁰³See *HITS Unveils New Digital Programming Lineup*, Cable World, Sept. 29, 1997, at 24. See also 1996 Report, 12 FCC Rcd at 4383-4 ¶ 46.

⁶⁰⁴Price Colman, *Adelphia Plans Digital Blitz*, Broadcasting & Cable, Nov. 10, 1997, at 59.

⁶⁰⁵See para. 48 (discussion of Microsoft's investments in cable) and para. 102 (discussion of WebTV) *supra*.

⁶⁰⁶Specs - News From CableLabs, *Cable Industry Creates "OpenCable"; Goal Is Interoperable Set-Top Boxes*, August/September 1997, at 1. See also para. 50 *supra*.

specify any single operating standard and recommended that interactive services over cable use open Internet specifications that would allow the use of any operating system.⁶⁰⁷ Further, pursuant to the 1996 Act, the Commission is in the midst of a rulemaking on the commercial availability of navigational devices,⁶⁰⁸ which may produce similar results.

176. In the 1995 and 1996 Reports, we reported on limited LEC activity in the area of Asynchronous Digital Subscriber Line ("ADSL"), mainly for the purpose of Internet access.⁶⁰⁹ This ADSL activity consisted of technical trials. Current reports indicate that LECs have moved forward with these trials, so that each regional Bell company and GTE each has at least one trial in progress. Only US West and Pacific Bell (now owned by SBC) have announced definitive roll-out plans, however, and it is unclear how long it will be before there is widespread commercial deployment.⁶¹⁰ SBC Communications launched its digital subscriber line service in San Francisco and Austin, Texas in November 1997.⁶¹¹

177. Switched digital video allows a company to provide multiple services over a single network. In 1996, Bell Atlantic announced plans to upgrade its infrastructure to a switched broadband network in Philadelphia and southeastern Pennsylvania, with eventual digital broadband service to over 12 million homes and small businesses across the mid-Atlantic region over the next three years. Bell Atlantic announced at this time that service would begin in 1997.⁶¹² Service has not yet begun, but construction has begun in southeastern Pennsylvania with voice and data services to be offered first, and video to follow.⁶¹³

IV. COMPETITIVE RESPONSES

A. New Case Studies

⁶⁰⁷ David Bank, *Microsoft, Time Warner and US West Discuss High-Speed Internet Service*, Wall Street Journal, Nov. 6, 1997, at B8.

⁶⁰⁸ *Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigational Devices*, CS Docket No. 97-80, Notice of Proposed Rulemaking, 12 FCC Rcd 5639 (1997).

⁶⁰⁹ *1995 Report*, 11 FCC Rcd at 2149-50 ¶ 191-193; *1996 Report*, 12 FCC Rcd at 4446 ¶ 184.

⁶¹⁰ See, e.g., *DSL: coming soon?*, Feb. 3, 1997; Web site at <http://www.internettelephony.com/archive/2.03.97/CoverStory/coverstory.html>. *USA Today* is also reporting that GTE will soon offer the service to large residential and office buildings in Los Angeles, San Francisco, and Chicago, but the company has not yet officially announced this. *Local Carriers Roll Out Digital Modems*, Nov. 17, 1997; Web site at <http://www.usatoday.com/money/mds2.htm>.

⁶¹¹ See *Telephony*, Comm. Daily, Nov. 17, 1997.

⁶¹² See *1996 Report*, 12 FCC Rcd at 4401 ¶ 77.

⁶¹³ Telephone interview with Marie Breslin, Director, FCC Relations, Bell Atlantic, October 15, 1997.

178. During 1997, the Commission issued decisions finding that an additional 45 cable communities with approximately 300,000 subscribers faced effective competition.⁶¹⁴ In the majority of these markets, the entrant was a LEC. A majority of incumbent cable operators responded by offering subscribers: (1) improved programming; (2) additional channels at the same monthly rate; (3) reduced rates for basic tier service; and (4) new services such as upgraded converter boxes with interactive programming guides.

179. In this section of the report, we analyze selected cable markets where the Commission found effective competition since the last report. We are particularly interested in competitive responses of both the incumbent and the new entrant.

1. Columbus, Berea, and Columbus Grove, Ohio

180. The *1996 Report* described the entry by Ameritech into Time Warner's western Columbus market and Coaxial's eastern Columbus market in May 1996 and July 1996, respectively.⁶¹⁵ In December 1996, the Commission issued an order finding effective competition in the area served by Time Warner. The Commission asked Coaxial to file a supplement to its original petition. On February 4, 1997, the Commission issued an order finding effective competition in the area served by Coaxial.⁶¹⁶ The Commission found that Ameritech's cable system overlaps about fifty percent of Coaxial's system (which passes approximately 93,000 homes) and that Coaxial had lost subscribers who switched to Ameritech.⁶¹⁷

181. In June 1996, Ameritech was also awarded a cable franchise in the city of Berea, Ohio.⁶¹⁸ Ameritech offered a 17 channel basic package called Localcast for \$9.95 per month. Its expanded basic package offered 59 channels (which subscribers could access without a set-top box) at a rate of \$27.95 per month. This service included all 17 channels from Localcast plus 42 other channels including TNT,

⁶¹⁴In these cases, the incumbent operators relied on a new test for effective competition provided by the 1996 Act whereby a cable system is considered to be subject to effective competition (and therefore exempt from rate regulation) where:

a local exchange carrier or its affiliate (or any multichannel video programming distributor using the facilities of such a carrier or its affiliate) offers video programming services directly to subscribers by any means (other than direct-to-home satellite services) in the franchise area of an unaffiliated cable operator which is providing cable services in that franchise area, but only if the video programming services so offered in that area are comparable to the video programming services provided by the unaffiliated cable operator in that area. 47 U.S.C. § 543(a)(2).

⁶¹⁵*1996 Report*, 12 FCC Rcd at 4454-56 ¶¶ 209-12.

⁶¹⁶*Coaxial Communications of Central Ohio, Inc., Petition for Determination of Effective Competition*, Memorandum Opinion and Order ("Columbus Order"), 12 FCC Rcd 1872,1877 ¶ 13 (1997).

⁶¹⁷*Id.* at 1876 ¶ 11.

⁶¹⁸*Cablevision of the Midwest, Inc., d/b/a V Cable, Inc., Petition for Determination of Effective Competition*, CSR 4944-E, Memorandum and Opinion Order ("Berea Order"), DA 97-648 (1997) at 2.

SportChannels, MTV and the Disney Channel.⁶¹⁹ These cable services and prices are very similar to those offered by Ameritech in the Columbus market.⁶²⁰

182. Cablevision, the incumbent cable operator in Berea with approximately 4,500 subscribers, offers a total of 74 channels on its basic and expanded basic service tiers.⁶²¹ Cablevision has responded to Ameritech by offering new expanded basic tier channels free for six months.⁶²² Cablevision offered to maintain the discounted per channel rate for its expanded basic tier after the expiration of the free offering period. According to Ameritech, Cablevision's discount amounted to a 20% reduction per channel.⁶²³ In addition, Cablevision moved the Disney Channel from an a la carte service to the expanded basic tier, saving customers who had subscribed to the Disney Channel over \$11 per month.⁶²⁴

183. Cablevision's petition for determination of effective competition was granted in March 31, 1997. The Commission found that Ameritech is a LEC, provides comparable programming to Cablevision's services, and has completely overbuilt the city of Berea. In addition, the Commission found that Ameritech's actual offering of service combined with aggressive marketing efforts have resulted in a decline in Cablevision's subscribership.⁶²⁵

184. In September 1996, Quality One Technologies ("Q1"), a wholly-owned subsidiary of Columbus Grove Telephone Company, was granted a cable franchise by the Village of Columbus Grove.⁶²⁶ In May 1997, Q1 began offering cable services in competition with Time Warner, the incumbent cable operator.⁶²⁷ Q1 offers four services: a 12 channel Basic Package for \$7.95; a 15 channel Basic Plus Package

⁶¹⁹Ken Wood, *Ameritech, Cablevision Lock Horns*, The News Sun, Sept. 26, 1996, at A1.

⁶²⁰*Petition of Coaxial Communications of Central Ohio, Inc., For Determination of Effective Competition*, Petition for Special Relief, CSR 4789-E, (July 15, 1996), Exhibit C.

⁶²¹*V Cable, Inc., Berea, OH, Petition for Determination of Effective Competition*, Petition for Special Relief, CSR 4944-E (Feb. 14, 1997), Exhibit 14.

⁶²²Ken Wood, *Berea Subscribers Reaping Benefits of Cable Television Competition*, The News Sun, Nov. 14, 1996 at A10.

⁶²³*Implementation of Sections of the Cable Act of 1992, Rate Regulation Horizontal and Vertical Ownership Limits Development of Competition and Diversity of Video Programming Distribution and Carriage*, Comments of Ameritech New Media, Inc. on Petition to Update Cable Television Regulations and Freeze Existing Cable Television Rates Filed by Consumers Union and Consumer Federation of America ("Comments on Consumer Union Petition"), RM No. 9167 (October 30, 1997), Attachment 1.

⁶²⁴Ameritech News Release June 18, 1996 at 1; and Ameritech Comments at 10-11.

⁶²⁵Berea Order at 3-4.

⁶²⁶*Time Warner Entertainment Company, L.P., d/b/a Time Warner Cable, for Determination of Effective Competition*, Petition for Special Relief, CSR 5059-E (July 15, 1997), Exhibit C.

⁶²⁷*Id.* at 8.

for \$10.95; a 29 channel Tier I Package for \$18.90; and a 45 channel Tier II Package for \$29.85 (including one converter box).⁶²⁸

185. At the time that Q1 entered the market, Time Warner offered four service packages: a 12 channel Basic service for \$7.98; a 15 channel Value Plus service for \$9.65; a 39 channel CPST service for \$27.14; and a 47 channel Cable Plus service \$30.09.⁶²⁹ Q1 offered additional programming in each of its packages, except for the largest package which was priced the same as Time Warner's comparable package. In contrast to Time Warner's services, Q1 included, for example, the Learning Channel in its Basic service, the Disney Channel in its Basic Plus service, and ESPN, USA, Sci-Fi, Sports Ohio, and the Cartoon Network in its Tier I service. Thus, except for the largest service package which was comparable to Time Warner's, Q1 offered additional programming on its first three levels of service and lower prices on its Basic and Tier I services.

186. In response to Q1's competitive service, Time Warner changed its channel lineup on its two largest services and instituted a customer loyalty program.⁶³⁰ Time Warner moved the History Channel, Sportschannel, Cartoon Network, and TV Land from its highest priced Cable Plus service to its CPST service at no additional cost. Time Warner's new CPST service offered 43 channels for \$27.14 compared to Q1's 29 channel Tier I Package for \$18.90 and 45 channel Tier II Package for \$29.85 (including one converter box). Time Warner also added three channels not available on Q1 (i.e., Animal Planet, Classic Sports and CNN SI) to its Cable Plus service at no additional cost.⁶³¹ In addition, Time Warner promises not to increase its rates for one year and to allow customers to earn a monthly credit that can be used to pay their cable bill at the end of the year.⁶³²

187. On July 15, 1997, Time Warner filed a petition for determination of effective competition in Columbus Grove. Time Warner claims that Q1 is affiliated with a LEC, offers comparable service, serves customers in Columbus Grove, and is an actual competitor in the market.⁶³³ On November 17, 1997, the Commission granted the petition.⁶³⁴

**2. *Fairfield, Bridgeport, Stratford, Orange, Woodbridge,
and Milford, Connecticut***

⁶²⁸*Id.* at Exhibit L.

⁶²⁹*Id.* at Exhibits N and O.

⁶³⁰*Id.* at 11.

⁶³¹*Id.* at Exhibits I, N and O.

⁶³²*Id.* at 11 and Exhibit N.

⁶³³*Id.*

⁶³⁴*Time Warner Entertainment Company, L.P., d/b/a Time Warner Cable, for Determination of Effective Competition, CSR 5059-E, Memorandum Opinion and Order, DA 97-2414 ¶ 11 (rel. Nov. 20, 1997).*

188. In September 1996, Southern New England Telephone ("SNET") was awarded a cable franchise for the entire state of Connecticut. In May 1997, SNET started to offer cable services to about 7,200 residents in the city of Fairfield. By July 1997, SNET was planning to add the remaining 53,000 Fairfield households to its service area. SNET offers 65 channels for \$26.50 a month, free installation and a 30-day guarantee (if new SNET subscribers are not happy with their service during the first 30 days, SNET will switch them back to their previous cable provider for free). In addition, SNET offered a \$30 voucher to its cable subscribers redeemable on the purchase of any other SNET service, including the phone services.⁶³⁵

189. Cablevision of Connecticut is the incumbent provider with a cable franchise comprised of six communities in Fairfield and New Haven counties: Fairfield City (15,000 subscribers), Bridgeport (35,000 subscribers), and Stratford (13,000) in Fairfield County; and Milford (17,000 subscribers), Orange (4,000 subscribers), and Woodbridge (3,000 subscribers) in New Haven County ("Fairfield-New Haven"). Cablevision charged \$32.95 per month for 82 channels for its basic plus expanded basic package (its "Optimum TV" service, excluding pay per view channels).⁶³⁶ In response to SNET's entry, Cablevision offered discounts up to \$15 or 45% on the \$32.95 Optimum TV service package to its Fairfield City subscribers. In addition, Cablevision offered a free month of Optimum TV, a free four week subscription to "Total Magazine," and free installation (up to three television sets) to new subscribers in the Fairfield area.⁶³⁷ Cablevision also attempted to become more customer service oriented. According to SNET, Cablevision established a new customer service line for its Fairfield City subscribers and performed a "door to door customer satisfaction survey in Fairfield, followed by a gift package in return for completing the survey."⁶³⁸ Cablevision also started to build a state-wide fiber network (similar to SNET's fiber network) which is expected to be completed by the end of this year.

190. In June 1997, Cablevision filed a petition for determination of effective competition in the six Connecticut cable communities that comprise its franchise.⁶³⁹ In August of this year, SNET urged the Commission to deny Cablevision's petition, arguing that it was premature to deregulate an entire franchise area if only a portion of it is subject to head-to-head competition. In its petition, SNET explained that Cablevision serves six communities, but only offers a price discount in Fairfield City where SNET is currently providing competing cable services.⁶⁴⁰ Cablevision subscribers in the other five communities are not being offered a

⁶³⁵Stephen Higgins, *1-Day Old Cable TV Rivalry Produces Instant Savings*, New Haven Register, Friday, May 23, 1997, at A1; and Edward J. Crowder, *SNET TV Now in Tune with Fairfield*, Connecticut Post, May 23, 1997, at C1.

⁶³⁶*Id.*

⁶³⁷SNET Opposition Petition for Special Relief, July 10, 1997 ("SNET Opposition Petition") at 7.

⁶³⁸SNET Opposition Petition at 8.

⁶³⁹*Cablevision Systems of Southern Connecticut, Fairfield, Bridgeport, Stratford, Orange, Woodbridge, Milford*, Petition for Special Relief, CSR 5031-E (June 13, 1997).

⁶⁴⁰*Cablevision Systems of Southern Connecticut, Fairfield, Bridgeport, Stratford, Orange, Woodbridge, Milford*, Petition for Determination of Effective Competition, SNET Opposition to Petition for Special Relief, CSR-5031-E (July 10, 1997) at 16-18.

discount. The Connecticut Department of Public Utility Control supports SNET's position.⁶⁴¹ The Commission is currently reviewing this petition.

3. *Sterling Heights Area, Michigan*

191. In 1996, Ameritech began to provide service in the Detroit suburbs of Sterling Heights (population 121,000), Fraser (population 14,000), Southgate (population 30,700) and Garden City (population 32,000).⁶⁴² Ameritech offered new subscribers 80 channels on its basic and expanded basic tiers, adding free channels such as the History Channel, ESPN2, PASS, the Golf Channel and the Disney Channel to the expanded basic tier at no additional cost.⁶⁴³ In addition, it offered, for a limited time, free basic or expanded service for the first two months, free installation, and free premium channels including Showtime, The Movie Channel, Flix and Sundance Channel for two months.⁶⁴⁴ According to Comcast, Ameritech has at least 1,500 subscribers in Garden City, 500 subscribers in Southgate, 150 subscribers in Fraser, and 100 subscribers in Sterling Heights.⁶⁴⁵

192. Following Ameritech's entry, Comcast, the incumbent cable operator, pledged to meet or beat any offer from another wired cable operator; offered HBO free for one year; guaranteed rates for one year and offered a \$3 per month discount off the expanded basic rate; added up to 40 channels in some of its franchise areas; moved The Disney Channel and PASS (a regional sports programming channel) from premium service to the expanded basic tier; and introduced a new advanced converter box with Interactive Programming Guide capability.⁶⁴⁶ In Garden City, for example, Comcast increased its expanded basic tier service from 47 to 66 channels and increased its tier price by only 91 cents, a decrease in the per channel rate of 12 cents. In Southgate, Comcast added 16 channels to its expanded basic tier and raised the monthly rate by 62 cents, a decrease in per channel rate of 10 cents. In Sterling Heights, Comcast currently offers eight more channels on its basic expanded tier and has reduced its rate by \$1.20.⁶⁴⁷

⁶⁴¹*Cablevision Systems of Southern Connecticut, Fairfield, Bridgeport, Stratford, Orange, Woodbridge, Milford, Petition for Determination of Effective Competition, Opposition to Petition for Special Relief by the Connecticut Department of Public Utility Control, CSR-5031-E (July 22, 1997), at 2.*

⁶⁴²*Comcast Cablevision of Sterling Heights, Inc., Comcast Cablevision of Taylor, Inc., Petition for Determination of Effective Competition ("Sterling Heights Petition"), March 25, 1997, at Exhibit E.*

⁶⁴³Ameritech (news release) Sept. 18, 1996, at 1.

⁶⁴⁴Sterling Heights Petition, at 5 n. 14.

⁶⁴⁵*Id.* at 4.

⁶⁴⁶Ameritech Comments at 11.

⁶⁴⁷Ameritech Comments at 11; and Comments on Consumer Union Petition, Attachment 1.

193. Comcast's petition for determination of effective competition was granted in May 1997.⁶⁴⁸ The Commission found that Ameritech has completely overbuilt Fraser, Southgate, and Garden City and is providing service in these areas.⁶⁴⁹ Although Ameritech has not completed its overbuild in Sterling Heights, the Commission nevertheless found that Ameritech has activated plant and is providing service to subscribers in that area and that Ameritech has heavily marketed its services through local media and has initiated an extensive promotion campaign.⁶⁵⁰

4. *Thousand Oaks, California*

194. The City of Thousand Oaks, California (with 45,000 cable subscribers) awarded a cable franchise to GTE in February 1996. GTE began offering its new cable service in September 1996 at \$10.95 for 28 channels.⁶⁵¹ GTE is competing with two incumbent cable operators that serve different parts of the city, Falcon and TCI.⁶⁵² Falcon, with 4,000 subscribers in the city, offers a \$22.45 basic tier service which includes 38 channels. TCI, with 32,000 subscribers in the city, is the larger incumbent. It operates Ventura County Television, which serves the entire county of Ventura including the city of Thousand Oaks. TCI charges \$10.51 for 21 channel basic tier service.⁶⁵³

195. Falcon, following GTE's entry, is now offering its subscribers an expanded satellite package of 12 channels for 45 cents instead of the original SatPac service of six channels for \$6.36 and has cut its prices in half for premium channels (from \$9.95 to \$5 each).⁶⁵⁴ TCI, on the other hand, seems to be positioning itself to compete with GTE for new services such as "interactive television." The new service would allow viewers to customize a program. For example, while watching Prime Sports, the viewer can request game statistics, watch interviews with players, or follow a star player throughout the game.⁶⁵⁵

⁶⁴⁸*Comcast Cablevision of Sterling Heights, Inc. and Comcast Cablevision of Taylor, Inc., Petition for Determination of Effective Competition*, CSR 4988-E, Memorandum Opinion and Order ("Sterling Heights Order"), 12 FCC Rcd 6815, 6818 ¶ 4 (1997).

⁶⁴⁹*Id.*

⁶⁵⁰*Id.* at ¶ 9.

⁶⁵¹Miguel Bustillo, *Thousand Oaks Orders Falcon to Reduce Basic Cable Rates*, Los Angeles Times, Oct. 3, 1996, at B4.

⁶⁵²*Falcon Cablevision to Cut Rates for Several Premium Channels*, Los Angeles Times, Nov. 22, 1996, at B1

⁶⁵³*Id.*; Miguel Helft, *Battle For Cable High Ground Begins Underground*, Los Angeles Times, Aug. 20, 1996, at B1.

⁶⁵⁴*Id.*

⁶⁵⁵Miguel Helft, *Battle For Cable High Ground Begins Underground; Telecommunications Giants Argue Over Cut Lines, Wage High-Tech War for TV Viewers*, Los Angeles Times, Aug. 20, 1996, at B1.

196. Falcon Cablevision's petition for determination of effective competition was granted by the Commission in April 1997.⁶⁵⁶ The Commission noted that the entire franchise area will be overbuilt by GTE, which has a ten year franchise with Thousand Oaks, and that Falcon has lowered prices and added new channels.⁶⁵⁷ According to GTE, it now has more than 1,000 subscribers and more are being added every day.⁶⁵⁸

5. *St. Petersburg and Pinellas County, Florida*

197. The entry by GTE into Clearwater in June 1996 and the Commission's subsequent finding of effective competition in Clearwater was discussed in the *1996 Report*.⁶⁵⁹ While Clearwater is GTE's first cable franchise in Pinellas County, Florida, it obtained a second franchise to serve the City of St. Petersburg⁶⁶⁰ in August 1996 and a third franchise to serve the unincorporated areas of Pinellas County in September 1996.⁶⁶¹

198. In the City of St. Petersburg, GTE offers 78 channels of programming compared to 82 channels offered by Time Warner, the incumbent cable operator.⁶⁶² GTE's 23 channel basic service is priced at \$10.95 and its 60 channel basic plus enhanced basic service is \$25.95.⁶⁶³ These two services and rates are very similar to those offered by GTE when it entered Clearwater. In addition, GTE offers St. Petersburg customers free basic service for two months, an interactive service that includes financial, educational, sports, news, games and travel services at \$10.95 (free to subscribers of premium services), a cable modem service at \$28.95 to GTE cable subscribers,⁶⁶⁴ a 45 day risk free guarantee (whereby GTE will pay the costs of switching the customer back to its old cable operator if not satisfied with GTE's service), free installation (up to two television sets), and an interactive program guide and free remote control.⁶⁶⁵ By January 1997, GTE

⁶⁵⁶*Falcon Cablevision, Petition for Determination of Effective Competition*, CSR 4955-E, Memorandum Opinion and Order, DA 97-861 ¶ 11 (Apr. 24, 1997), at 5.

⁶⁵⁷*Id.* at 4-5.

⁶⁵⁸*Falcon Cablevision for Determination of Effective Competition, Petition for Special Relief*, CSR 4955-E (March 5, 1997), at 6 n. 22.

⁶⁵⁹*1996 Report*, 12 FCC Rcd at 4457-58 ¶¶ 218-20.

⁶⁶⁰*Paragon Communications d/b/a Time Warner Communications, For Determination of Effective Competition, St. Petersburg Petition for Special Relief ("St. Petersburg Petition")*, CSR 4930-E (January 15, 1997), at 7.

⁶⁶¹*Id.* at Exhibit E.

⁶⁶²*Id.* at 9 and Exhibits E and F.

⁶⁶³*Id.* at Exhibit E; and Waveney Ann Moore, *Cable War Expands to St. Petersburg*, *St. Petersburg Times*, Jan. 5, 1997, at 12.

⁶⁶⁴Moore, *Cable War Expands to St. Petersburg*, at 12. The cable modem rents for an additional \$14.95 per month.

⁶⁶⁵*St. Petersburg Petition*, Exhibit E.

was offering its services to about 800 homes and was undertaking substantial construction in the northern sections of the city.⁶⁶⁶

199. In Pinellas County, GTE's service offerings are very similar to those offered in St. Petersburg and Clearwater. The basic 23 channel service is \$10.95 and the 62 channel basic plus expanded basic service is \$25.95. In addition, GTE offers expanded service customers the same risk free guarantee, and free electronic programming guide, video center and remote control that it offers its customers in St. Petersburg and Clearwater.⁶⁶⁷

200. According to Time Warner, its response in the St. Petersburg market (with approximately 71,000 subscribers) is similar to its competitive response to GTE's entry in the Clearwater market.⁶⁶⁸ Time Warner has upgraded its plant and moved the Disney Channel to its expanded basic package at no additional cost. Time Warner states that its cable prices are the same or less than GTE's and that it offers more channels than GTE. For example, Time Warner offers 64 channels on its basic plus expanded basic service compared to GTE's 60 channel service.⁶⁶⁹ Further, Time Warner believes that GTE's innovative services (such as GTE's interactive service) are not very successful.⁶⁷⁰ Throughout Pinellas County, Time Warner is monitoring the success of its rivals.⁶⁷¹

201. Both of Time Warner's petitions for determination of effective competition in St. Petersburg and in the unincorporated areas of Pinellas County were granted by the Commission in March 1997.⁶⁷² The Commission found that GTE was currently offering service in St. Petersburg and that its ten year franchise agreement appears to provide that GTE will construct its system throughout St. Petersburg.⁶⁷³ The Commission also found that Time Warner's loss of subscribers to GTE is further evidence of competition in

⁶⁶⁶Waveney Ann Moore, *Cable War Expands to St. Petersburg*, St. Petersburg Times, Jan. 5, 1997, at 1.

⁶⁶⁷*Time Warner Entertainment-Advance/Newhouse Partnership and Paragon Communications both d/b/a Time Warner Communications, For Determination of Effective Competition*, Petition for Special Relief, CSR 4850-E (October 9, 1996), Exhibits F and G.

⁶⁶⁸St. Petersburg Petition at 9-10.

⁶⁶⁹*Id.* at Exhibit F. Time Warner did not provide any information on its rates for basic or expanded basic services.

⁶⁷⁰Moore, *Cable War Expands to St. Petersburg*, at 12.

⁶⁷¹*Id.* at 12.

⁶⁷²*Paragon Communications d/b/a Time Warner Communications, Petition for Determination of Effective Competition*, CSR 4921-E, Memorandum Opinion and Order ("St. Petersburg Order"), DA 97-566 ¶ 13 (rel. Mar. 18, 1997); and *Time Warner Entertainment-Advance/Newhouse Partnership and Paragon Communication, Petition for Determination of Effective Competition*, CSR 4850-E, Memorandum Opinion and Order ("Pinellas County Order"), 12 FCC Rcd 3143, 3149 ¶ 12 (1997).

⁶⁷³St. Petersburg Order ¶ 11.

the city.⁶⁷⁴ In Pinellas County, the Commission found that GTE's current service area covered about 15% of the County, with construction to be completed within three years. It also found that Time Warner's loss of subscribers to GTE was persuasive evidence that competition was present in the County.⁶⁷⁵

6. Wayne, Michigan

202. The City of Wayne awarded a cable franchise to Ameritech in March 1996.⁶⁷⁶ Ameritech offered 80 channels on its basic and expanded basic tiers and included channels such as the History Channel, ESPN2, the Golf Channel and the Disney Channel at no additional cost. Its basic and expanded basic rates were \$9.95 and \$23.95, respectively.⁶⁷⁷ However, Ameritech offered free basic and expanded basic services for the first two months, free installation, and free Showtime, The Movie Channel, Flix and Sundance Channel for two months. Time Warner, the incumbent provider, offered a total of 60 channels on its basic and expanded basic service tiers.⁶⁷⁸ The rates were \$11.26 and \$20.90 for basic and expanded basic services, respectively.⁶⁷⁹

203. Following Ameritech's entry to the cable market, Time Warner (with about 5,000 subscribers): (a) lowered the price of its expanded basic services;⁶⁸⁰ (b) introduced a subscriber retention program (which gives the subscriber the choice of two free months of cable service or free Cinemax for a year in return for a one-year subscription); (c) added 10 to 11 channels to its expanded basic service; (d) moved two premium channels, the Disney Channel and the sports PASS channel, to expanded basic at no additional charge; and (e) upgraded its plant to a 750 MHz system, with 550 MHz being used for analog and 200 MHz reserved for digital.⁶⁸¹

204. The incumbent cable operator's petition for determination of effective competition was granted in March 1997. The Commission found that Ameritech's overbuild of Time Warner's system is virtually

⁶⁷⁴St. Petersburg Order at 6. Time Warner submitted an affidavit by Robert J. Barlow stating that several Time Warner subscribers stated that they switched to GTE's cable service. *See Time Warner Entertainment-Advance/Newhouse Partnership and Paragon Communication, Petition for Determination of Effective Competition*, CSR 4850-E, Petition for Special Relief, ("Pinellas County Petition"), CSR 4850-E (October 9, 1996), Exhibit D.

⁶⁷⁵Pinellas County Order at 3147-48 ¶¶ 10-11.

⁶⁷⁶*Time Warner Entertainment-Advance/Newhouse Partnership and Paragon Communications both d/b/a Time Warner Cable, Petition for Determination of Effective Competition*, CSR 4935-E, Memorandum and Opinion Order ("Wayne Order"), 12 FCC Rcd 3175, 3176 ¶ 3 (1997).

⁶⁷⁷*Time Warner Entertainment-Advance/Newhouse Partnership and Paragon Communications both d/b/a Time Warner Cable, Petition for Determination of Effective Competition*, Petition for Special Relief ("Wayne Petition"), CSR 4935-E (January 30, 1997), Exhibit F.

⁶⁷⁸*Id.*, Exhibit I; Ameritech Comments at 12.

⁶⁷⁹Time Warner, FCC Form 1240, Part I, Jan. 31, 1995.

⁶⁸⁰Ameritech Comments at 12.

⁶⁸¹Wayne Petition at 12-13; Ameritech Comments at 12.

complete in the City of Wayne and that Ameritech's services reduced Time Warner's subscribership.⁶⁸² Further, Ameritech's franchise agreement requires Ameritech to provide numerous public benefits to the City of Wayne, such as free cable service to Wayne City Hall, police and fire stations, public schools, and public libraries.⁶⁸³

B. Preliminary Findings

205. The actual case studies detailed above address competition between incumbent cable systems and overbuilders, all of which are using similar wired delivery systems. In the current case studies as well as in the case studies in the last report, incumbent cable operators facing competition from MVPDs using wired delivery appear to be responding: (1) by offering better customer services, new services, and new products; and (2) by offering lower prices or some form of price discounting. MVPD entrants appear to be focusing on similar strategies in their efforts to win customers.⁶⁸⁴

206. In the markets studied, some incumbents increased their service offerings in an attempt to protect or maintain customer bases in the face of entry. Operators added new channels in Berea, Columbus Grove, Fairfield-New Haven, Sterling Heights, and Wayne. Some of the new channels added were previously offered a la carte channels (such as the Disney Channel) and moved onto expanded service tiers at no additional cost. However, in Berea, Fairfield-New Haven, and Thousand Oaks, the channel line-up of the incumbent was equal or larger than that of the entrant. Thus, in contrast to the preliminary finding in the *1996 Report*, the tendency for entrants to enter the market with a larger channel line-up than the incumbent is not as apparent in 1997.

207. There is also some evidence that incumbent cable operators continue to lower prices when competing with LEC and other wired cable overbuilders. Incumbent cable systems in Berea, Fairfield-New Haven, St. Petersburg, Thousand Oaks, and Wayne appear to be offering substantial discounts, between 20 and 50%, on basic or expanded basic services. Incumbents have attempted to limit such price reductions by discounting only for a limited period of time, to only those customers who can switch to a competing service,⁶⁸⁵ or only if additional services are taken.

208. Entrants also appear to be competing on the basis of price. Entrants in Connecticut and Thousand Oaks encouraged subscribers to switch to its services by offering lower prices -- not larger service tiers -- than those offered by incumbents. In addition, some entrants discount their rates further if the subscriber takes additional non-video services. In Connecticut, for example, SNET offered a \$30 voucher good toward the purchase of any other service offered by SNET.

⁶⁸²Wayne Order, 12 FCC Rcd at 3179 ¶ 11.

⁶⁸³*Id.* at 3176-77 ¶ 4.

⁶⁸⁴*1996 Report*, 12 FCC Rcd at 4461 ¶¶ 229-31.

⁶⁸⁵Ameritech claims that the reaction of incumbents to new entry (such as reducing prices and expanding services) is in marked contrast to the incumbent's behavior in adjacent communities not yet served by an entrant, where cable rates continue to rise and subscribers have poor choices. Comments on Consumer Union Petition at 3.

209. The incumbent operators in all six cases have already petitioned for relief from current cable rate regulations on the ground that they face effective competition. In Berea, Columbus Grove, Sterling Heights area, Thousand Oaks and Wayne, the incumbents' petitions have been granted. As we stated in the last report, we expect incumbents and entrants to compete differently where these petitions are granted by the Commission.⁶⁸⁶ Since the current rate regulations under certain circumstances prohibit cable operators from providing selective rate discounting,⁶⁸⁷ deregulated cable operators have a greater ability to provide selective rate discounts to maintain their subscriber base in the market.

210. We will continue to monitor the extent of competition as incumbent operators compete with new cable operators and other MVPDs to gain subscribership. Price discounts, improved services, and new services must be sustained over a longer time period before we can determine whether such consumer benefits are a transitory or permanent reaction to competition. We believe that implementation of the 1996 Act together with technological improvements (e.g., digital technology and enlarged channel capacity) could make new entrants more effective competitors. Such competition in the marketplace is just emerging, however, making it impossible for us to predict the extent to which competition will develop over time and constrain cable systems' exercise of market power. Because the cable industry is generally in the process of adding channels, upgrading facilities, and improving customer service, it remains difficult to determine changes responsive to competition and those taking place on a more general basis.

V. ISSUES RELATING TO FEDERAL LAWS AND REGULATIONS

211. In this section, we discuss a variety of federal laws and regulations that affect competition in the video marketplace, including the Commission's progress to date in its continuing implementation of the 1996 Act. In particular, we describe developments related to over-the-air reception devices, inside wiring, pole attachments, television towers for DTV, program access issues, horizontal ownership issues, copyright act issues, MVPD carriage of broadcast signals, public service obligations for DBS, and navigation devices.

A. Over-the-Air Reception Devices

212. Section 207 of the 1996 Act directed the Commission to "promulgate regulations to prohibit restrictions that impair a viewer's ability to receive video programming services through devices designed for over-the-air reception of television broadcast signals, multichannel multipoint distribution service, or direct broadcast satellite services."⁶⁸⁸ This provision is intended to provide consumers with access to a broad range of video programming services. The Commission adopted rules that prohibit inappropriate government and nongovernment restrictions on the installation, maintenance or use of reception devices located on property that is within the exclusive use or control of the viewer and in which the viewer has a direct or indirect ownership

⁶⁸⁶*Id.*

⁶⁸⁷As stated in the Communications Act, sec. 623(d), as amended:

"A cable operator shall have a rate structure, for the provision of cable service, that is uniform throughout the geographic area in which cable service is provided over its cable system."

⁶⁸⁸1996 Act, § 207.

interest.⁶⁸⁹ The Commission sought comment in a pending *Further Notice of Proposed Rulemaking* on how to treat the placement of antennas on property in which the viewer does not have an ownership interest and exclusive use or control -- e.g., rental apartments and MDU common areas -- and on a proposal to allow an association to install a community antenna as an alternative to allowing individual antennas.⁶⁹⁰

213. The over-the-air reception devices ("OTARD") rule⁶⁹¹ applies to satellite dishes (including DBS and other DTH satellite dishes) one meter or smaller in diameter, or dishes of any size located in Alaska;⁶⁹² MDS, MMDS and LMDS (i.e., wireless cable) antennas one meter or smaller in diagonal measurement, plus a mast if needed; and television antennas of any size.⁶⁹³ The rule prohibits governmental and private restrictions that impair the ability of antenna users to install, maintain, or use over-the-air reception devices or to receive acceptable quality signals, except where such restrictions are necessary "to accomplish a clearly defined safety objective" or "to preserve an historic district listed or eligible for listing in the National Register of Historic Places . . ."⁶⁹⁴

214. Since the rules became effective on October 14, 1996, the Cable Services Bureau has received 38 Petitions for Declaratory Ruling and three Petitions for Waiver. Thirteen petitions have been resolved informally, and orders have been issued on six others. The Bureau has also facilitated informal resolution of numerous disputes between antenna users and restricting entities before they reached the petition stage. The Bureau frequently achieves informal resolution by informing the regulating entity, which is usually a homeowner's association, about the rule and explaining how the rule would apply in a particular situation. Where necessary, the Bureau consults with both the antenna user and the association to reach a resolution.

215. Of the six orders issued by the Bureau, five involved preemption of homeowner associations' regulations that unduly restricted consumers' ability to install reception devices.⁶⁹⁵ One homeowner's

⁶⁸⁹See *Preemption of Local Zoning Regulation of Satellite Earth Stations, Restrictions on Over-the-Air Reception Devices: Television Broadcast and Multichannel Multipoint Distribution Service*, IB Docket No. 95-59, CS Docket No. 96-83, Report and Order, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking ("*OTARD Order*"), 11 FCC Rcd 19276 (1996). Petitions for reconsideration are pending.

⁶⁹⁰*OTARD Order*, 11 FCC Rcd at 19311-315 ¶¶ 59-65.

⁶⁹¹The Commission currently has two rules, 47 C.F.R. § 25.104 and 47 C.F.R. § 1.4000, that govern the installation and use of reception devices and specify the circumstances under which federal preemption of local zoning ordinances would occur. Section 25.104, which partially implements Section 207 of the 1996 Act, applies to home satellite antennas greater than one meter in diameter and permits certain installation and use restrictions that further a "clearly defined health, safety, or aesthetic objective." Section 1.4000, referenced in the text above as the OTARD Rule, was adopted specifically to implement Section 207. See *OTARD Order*, 11 FCC Rcd at 19277-289 ¶¶ 2-5.

⁶⁹²Currently, satellite reception in Alaska requires dishes greater than one meter in diameter.

⁶⁹³47 C.F.R. § 1.4000.

⁶⁹⁴47 C.F.R. § 1.4000(b).

⁶⁹⁵*In the Matter of Michael J. MacDonald*, CSR 4922-O, DA 97-2189 (released Oct. 14, 1997); *In re Jay*

(continued...)

association claimed its restrictions were necessary to preserve an historic district and thus permissible under the OTARD rule, but the Bureau found inadequate evidence to support the claim.⁶⁹⁶ Another homeowner's association failed to offer sufficient evidence to support its claim that petitioners could receive acceptable quality signals by placing an antenna in their attic.⁶⁹⁷ Three other petitions involved regulations that completely prohibited the installation of exterior antennas without justification on either safety or historic preservation grounds,⁶⁹⁸ while another concerned regulations that prohibited antenna installation unless the homeowner complied with an unspecified prior approval process related to aesthetic factors.⁶⁹⁹ The sixth order preempted a governmental restriction in Meade, Kansas, requiring permits and prior approval for antenna installation and compliance with unspecified setback requirements under penalty of a \$500 a day fine.⁷⁰⁰

216. Commenters argue that the rules as presently crafted give local government authorities and homeowners associations many opportunities to block competition.⁷⁰¹ For example, several commenters contend that the rules as adopted are unfair and not consistent with the intent of Congress because they do not extend to renters and other consumers who do not have exclusive use of areas suitable for antenna installation.⁷⁰² BellSouth asserts that the rules do not go far enough to preempt permit or other advance approval requirements, and that they provide an incentive for the adoption of illegal antenna restrictions that have no legitimate public safety objective.⁷⁰³ These concerns will be considered by the Commission in connection with the pending OTARD reconsideration petitions and the *Further Notice of Proposed Rulemaking*.⁷⁰⁴

⁶⁹⁵(...continued)

Lubliner and Deborah Galvin, Potomac, Maryland, CSR 4915-O, DA 97-2188 (released Oct. 14, 1997); *In re CS Wireless Systems, Inc. d/b/a OmniVision of San Antonio*, CSR 4947-O, DA 97-2187 (released Oct. 14, 1997); *In re Victor Frankfurt, Vernon Hills, Illinois*, CSR 5024-O, DA 97-2305 (released Oct. 31, 1997); *In re Wireless Broadcasting Systems of Sacramento, Inc.*, CSR 5001-O, DA 97-2506 (released Nov. 28, 1997).

⁶⁹⁶See *In the Matter of Michael J. MacDonald*, CSR 4922-O.

⁶⁹⁷See *In re Jay Lubliner and Deborah Galvin*, CSR 4915-O.

⁶⁹⁸See *In re CS Wireless Systems*, CSR 4947-O; *In re Victor Frankfurt*, CSR 5024-O.

⁶⁹⁹See *In re Wireless Broadcasting Systems of Sacramento, Inc.*, CSR 5001-O.

⁷⁰⁰*In re Star Lambert*, CSR 4913-O, Memorandum Opinion and Order, 12 FCC Rcd 10455 (1997).

⁷⁰¹See, e.g., BellSouth Comments at 17-18; ICTA Comments at 13-14; NAB Reply Comments at 30-31; OpTel Comments at 4.

⁷⁰²DIRECTV Comments at 10; NAB Reply Comments at 33-34; NRTC Reply Comments at 12-13; SBCA Comments at 12.

⁷⁰³BellSouth Comments at 18. BellSouth also claims that the Commission exceeded its legal authority under § 207 by inferring for itself the authority to allow restrictions that impair video reception if such restrictions are designed to promote safety or historical preservation interests. *Id.* at 17-18.

⁷⁰⁴See fn. 689 *supra*.

217. ICTA and OpTel claim that many jurisdictions have restricted installation and construction of new antennas, limiting the deployment of more widely dispersed and cost-effective competitive video providers,⁷⁰⁵ while others have sought to create new fees or taxes for competing MVPDs due to concerns that increased competition will result in a reduction in franchise fees.⁷⁰⁶ They recommend that the Commission broaden its federal antenna preemption to include microwave and other antennas used to deliver video programming, and closely scrutinize local fees or taxes imposed on competitive MVPDs.⁷⁰⁷ We note, however, that Section 207 authorizes the Commission to preempt local regulations restricting reception devices, not transmission antennas or towers. Moreover, while the imposition of disparate taxes on competitors can have a distorting impact on competition, commenters have not presented probative evidence that such taxes and fees are a widespread occurrence that is adversely affecting competition and warrants Commission action or a recommendation that Congress address this situation.

218. The preemption of antenna placement restrictions contained in Section 207 eliminates some barriers to competition by spectrum-using video distributors. However, in some situations, the elimination of restrictions leaves unclear the question of whether MDU residents within a building can gain access to an acceptable receiving location. This issue will be addressed in the *Further Notice of Proposed Rulemaking*. Depending on the outcome of those proceedings, additional antenna placement rights may be necessary if competition for individual MDU subscribers is to take place on a broader basis.

B. Inside Wiring

219. In previous *Reports*, the Commission noted that strategic behavior by incumbent firms can create impediments to entry and competition by rival service providers.⁷⁰⁸ Strategic behavior may be designed to raise rivals' costs or decrease their access to customers, and can deter would-be competitors' entry by creating a credible threat that entry would be unprofitable.⁷⁰⁹ Various commenters assert that exclusive contracts for MDUs and lack of access to inside wiring impede competition for multichannel video programming services to MDU residents.⁷¹⁰ These commenters advocate moving the MDU demarcation point to the building entry or to the location at which the wire becomes dedicated to serving a specific subscriber

⁷⁰⁵ICTA Comments at 13; OpTel Comments at 4.

⁷⁰⁶ICTA Comments at 13-14; OpTel Comments at 4.

⁷⁰⁷*Id.*

⁷⁰⁸*See, e.g., 1995 Report*, 11 FCC Rcd at 2154-56 ¶¶ 205-9; *1996 Report*, 12 FCC Rcd at 4450-52 ¶¶ 196-200.

⁷⁰⁹12 FCC Rcd at 4450-1 ¶ 196.

⁷¹⁰*See, e.g., NCCTA Comments* at 1; *RCN Reply Comments* at 9. Cable inside wiring includes the wiring within a subscriber's premises ("cable home wiring") and, in MDUs, other wiring dedicated exclusively to serving a specific subscriber unit ("home run wiring").

unit,⁷¹¹ prohibiting incumbent cable operator and/or landlord limitation of competitive access,⁷¹² and prohibiting or limiting exclusive MDU service agreements.⁷¹³

220. On October 17, 1997, the Commission released a *Report and Order and Second Further Notice of Proposed Rulemaking* concerning inside wiring, which is designed to facilitate competition among MVPDs serving MDUs.⁷¹⁴ The *Order* establishes procedures for the orderly disposition of MDU wiring (including home run wiring and home wiring) in the event the MDU owner wants to switch its entire building to an alternative service provider, or wants to permit an alternative provider onto the premises to compete for the right to use inside wiring on a unit by unit basis.⁷¹⁵ The *Order* also allows individual subscribers to install their own home wiring or to add to their service provider's home wiring. The *Order* adopts no rules relating to exclusive agreements for the provision of multichannel video programming services to MDUs. The *Order*, however, seeks comment concerning the possibility of the Commission's adoption of certain restrictions on such agreements.

221. The rules adopted were limited in scope, applying to MDU home run wiring only where the incumbent provider no longer has a legally enforceable right to remain on the premises. If the Commission had more explicit authority to address wiring transfer and compensation issues, policies could be adopted to further facilitate competition in MDUs, including ongoing building and unit-by-unit competition.

C. Pole Attachments

222. In the *1996 Report*, we noted that Congress had directed the Commission to issue new pole attachment formulas within two years of the effective date of the 1996 Act.⁷¹⁶ The Commission is presently

⁷¹¹Ameritech Comments at 31-32; RCN Reply Comments at 10-11; GTE Reply Comments at 7-8.

⁷¹²Ameritech Comments at 31-32; RCN Comments at 9-11; *See* NCCTA Comments at 1.

⁷¹³*See* Ameritech Comments at 28-30; DIRECTV Comments at 9-11; GTE Reply Comments at 5-9; ICTA Comments at 8; OpTel Comments at 3-5. Some commenters assert that the use of perpetual exclusive contracts by franchised cable operators in MDUs restrains and inhibits competition. *See, e.g.*, GTE Reply Comments at 7; ICTA Comments at 6, 8-11; OpTel Comments at 3-5. GTE, ICTA and OpTel support the use of exclusive service contracts in MDUs, but argue that perpetual exclusive contracts impede competition. These commenters advocate a "fresh look" for perpetual contracts entered into by MVPDs and dominant telecommunications providers. The "fresh look" would allow customers (whether MDU owners or individual subscribers) to renegotiate or cancel such contracts as competition is introduced. GTE Comments at 7; ICTA Comments at 8-11; OpTel Comments at 5. In addition, ICTA recommends that the Commission preclude MDU video service contracts from linking the duration of the contract to that of the cable operator's franchise and all renewals or extensions thereof. ICTA Comments at 6.

⁷¹⁴*Inside Wiring Order*, fn. 470 *supra*. *See also* paras. 129-139 *supra*.

⁷¹⁵The Commission will apply rules regarding disposition of cable home run wiring to all MVPDs. MDU owners may also purchase "loop-through" wiring upon the owner's termination of the incumbent's services to the MDU.

⁷¹⁶*1996 Report*, 12 FCC Rcd at 4450 ¶ 195. Section 703 of the 1996 Act amended Section 224 of the

(continued...)

considering, in separate proceedings, issues related to elements of the pole attachment rate formula, the use of current presumptions, the use of gross versus net data, and the implementation of a methodology to ensure just, reasonable and nondiscriminatory rates for pole attachments, conduits, and use of rights of way.⁷¹⁷

223. In the *Notice*, we sought information that would demonstrate whether the rates charged for pole attachments by exempt cooperatives⁷¹⁸ and governmental entities impede or promote competition, especially in rural areas.⁷¹⁹ All pole attachment rates are subject to negotiation, but the pole rates charged by non-exempt utilities are subject to federal regulation where the parties are unable to resolve a dispute over such charges. Pursuant to a statutory exception, cooperatives' and governmental entities' pole attachment rates are not currently subject to regulation in the event of a dispute.⁷²⁰

224. A few commenters contend that the cooperative exemption should be eliminated, arguing that unregulated pole owners have increased pole attachment rates significantly in recent years, often exceeding the national average.⁷²¹ NCTA claims that although cooperative utilities were found to charge the lowest pole rates when the exemption was adopted in 1978, they now often charge the highest rates.⁷²² Commenters relate several examples of significant pole attachment rate increases where cooperative or municipal entities had announced plans to enter the telecommunications service market.⁷²³ Similarly, both

⁷¹⁶(...continued)

Communications Act, Regulation of Pole Attachments, 47 U.S.C. § 224.

⁷¹⁷*See Amendment of Rules and Policies Governing Pole Attachments*, CS Docket No. 97-98, Notice of Proposed Rulemaking, 12 FCC Rcd 10527 (1997): seeks comment on the Commission's use of current presumptions, on carrying charge and rate of return elements of the pole attachment formula, on the use of gross versus net data, and on a new conduit methodology; and *Amendment of Rules and Policies Governing Pole Attachments*, CS Docket No. 97-151, FCC 97-234, Notice of Proposed Rulemaking (released August 12, 1997): seeks comment on the implementation of a methodology to ensure just, reasonable, and nondiscriminatory maximum pole attachment and conduit rates and on a method to ensure that rates charged for the use of rights of way are just, reasonable and nondiscriminatory.

⁷¹⁸The statute exempts "any person who is cooperatively organized" from regulation of pole attachments. *See* 47 U.S.C. § 224(a)(1).

⁷¹⁹*Notice*, 12 FCC Rcd. at 7843-44 ¶ 20. The 1996 Act amended Section 224(a)(4) of the Communications Act to define "pole attachment" as "any attachment by a cable system or provider of telecommunications service to a pole, duct, conduit, or right-of-way owned or controlled by a utility." *See* 47 U.S.C. § 224(a)(4). However, poles, ducts, conduits and rights-of-way owned or controlled by any railroad, cooperative, or federal or state entity are not considered utilities under this section. *Notice, id.*

⁷²⁰*See* 47 U.S.C. §§ 224(a)(1) and (e)(1).

⁷²¹*See, e.g.*, NCTA Comments at 40-41; SCBA Comments at 18-21; SCBA Reply Comments at 3.

⁷²²*See* NCTA Comments at 41-42.

⁷²³NCTA Comments at 42-44 (cites numerous increases ranging from 38% in Nashville to 565% in North Carolina); US West Comments at 21-23 (cites a proposed doubling of one municipality's pole rates to \$10, with
(continued...))

SCBA and NCTA assert that many cooperatives have become DBS retailers, and that this has provided cooperatives with the incentive to obstruct cable competition through unreasonable pole attachment conditions and rates.⁷²⁴

225. In contrast, APPA maintains that the few examples of allegedly unreasonable rates offered by commenters represent only a fraction of the pole attachment agreements in existence, and do not justify elimination of the exemption.⁷²⁵ APPA also contends that it is of no consequence that some cooperatives' pole rates are above the national average since that average is derived from many values above and below it, and may reflect below-cost rates as well.⁷²⁶ APPA claims that eliminating the exemption that government entities, cooperatives and railroads have from federal pole attachment requirements would be harmful to small electric utilities, which generally lack the resources and databases necessary to comply with the Commission's complex pole attachment requirements.⁷²⁷ Commenters who support the exemption cite a survey of 525 NRECA members which found that: (a) more than 93% of cooperatives own poles that are jointly used by other utilities; (b) the average rate charged by cooperatives is \$6.71 per pole; (c) 76% of cooperatives attach to poles owned by other entities, for which they are charged an average of \$9.02 per pole; and (d) 75% of cooperatives do not recover the attaching entity's proportionate share of the full cost of the pole in their rates.⁷²⁸ NRECA also disputes claims that many cooperatives offer DBS service, noting that there are some 1,000 rural electric cooperatives in the U.S., but less than 10% participate in DBS.⁷²⁹

226. The pole attachment rate regulation function is one that is shared between the Commission and state and local governments, with state and local governments having priority in those situations where they choose to regulate. The initial congressional decision to exempt cooperatives and government entities appears to have been based, at least in part, on the implicit assumption that these entities were functioning not just as businesses providing utility pole and conduit space but as public representatives performing a regulatory or quasi regulatory function. When these cooperatives and municipal entities are themselves engaged in the

⁷²³(...continued)
that rate increasing to \$25 over five years).

⁷²⁴See NCTA Comments at 41-42; SCBA Comments at 21.

⁷²⁵APPA Reply Comments at 2-3.

⁷²⁶*Id.* at 4.

⁷²⁷APPA Comments at 2; APPA Reply Comments at 2.

⁷²⁸See, e.g., NRECA Comments at 2; Minnesota Electric Comments at 2; Montana Electric Comments at 2-3; NRTC Comments at 24. APPA contends that recent cooperative pole rate increases may reflect efforts to begin recovering full pole costs. See APPA Reply Comments at 3.

⁷²⁹See NRECA Comments at 2 and NRECA Reply Comments at 3; see also Minnesota Electric Comments at 3; Montana Electric Comments at 2.

provision of communications services a conflict of interest may result such that the rates charged to competitors may no longer be cost based and that competition may accordingly be distorted.⁷³⁰

D. Television Towers for DTV

227. The Commission adopted an aggressive implementation schedule for DTV to ensure preservation of a universally available, free local television service and the swift recovery of broadcast spectrum.⁷³¹ Digital television may provide a means for broadcast television to become more competitive in the market for delivery of video programming by permitting the use of HDTV or multiplexed services. In order to provide digital television service, broadcasters will need to modify their facilities, including often new transmitters, new digital production facilities and, in some cases, new towers.⁷³² Of particular concern to broadcasters is the effect of local and state regulations on their ability to upgrade existing towers or to construct new towers in a timely manner.⁷³³ In the *Fifth Report and Order*, we noted that the difficulties in obtaining zoning and other approvals may interfere with a television station licensee's ability to meet construction schedule requirements.⁷³⁴ We are, however, also sensitive to the important state and local roles in zoning and land use matters and their longstanding interest in the protection and welfare of their citizenry.

228. The Commission has adopted a *DTV Tower Notice* to seek comment on whether any action is necessary in order to achieve a rapid roll-out of DTV.⁷³⁵ The *DTV Tower Notice* was issued in response to a "Petition for Further Notice of Proposed Rule Making" filed jointly by NAB and the Association for

⁷³⁰See, e.g., NCTA Comments at 41-46; SCBA Comments at 21; US West Comments at 21-23

⁷³¹*Fifth Report and Order*, 12 FCC Rcd at 12840-1 ¶ 76. In the *Fifth Report and Order*, we found that an accelerated roll-out of digital television was essential for four reasons. We found that absent a speedy roll-out, other digital television services might achieve levels of penetration that could preclude the success of over-the-air digital television, leaving viewers without a free, universally available digital programming service. Second, we determined that a rapid construction period would promote DTV's competitive strength internationally, spurring the American economy in terms of manufacturing, trade, technological development, international investment, and job growth. Third, we stated that "an aggressive construction schedule helps to offset possible disincentives that any individual broadcaster may have to begin digital transmissions quickly." Finally, we found that a rapid build-out would work to ensure that the recovery of broadcast spectrum occurs as quickly as possible. This will enable the federal government to reallocate some of the recovered spectrum for public safety purposes, and to eventually auction the rest. *Fifth Report and Order*, 12 FCC Rcd at 12842-3 ¶¶ 80-83.

⁷³²Kyle Pope and Mark Robichaux, *Hype Definition: Waiting for HDTV? Don't Go Dumping Your Old Set Just Yet*, Wall Street Journal, Sept. 12, 1997, at A1.

⁷³³NAB Reply Comments at 35-37. There are also other logistical and resource concerns that may affect broadcasters' ability to meet the deadline for conversion to DTV, including the number of towers that need to be modified or constructed, the scarcity of construction crews, weather delays and supply shortages. *Preemption of State and Local Zoning and Land Use Restrictions on the Siting, Placement and Construction of Broadcast Station Transmission Facilities*, MM Dkt. No. 97-182, Notice of Proposed Rulemaking ("*DTV Tower Notice*"), 12 FCC Rcd 12505, 12505 ¶ 4 (1997).

⁷³⁴*Fifth Report and Order*, 12 FCC Rcd at 12810 ¶ 77.

⁷³⁵*DTV Tower Notice*, 12 FCC Rcd at 12508 ¶ 11.

Maximum Service Television ("Petitioners").⁷³⁶ In addition, the Commission is working with the Local and State Government Advisory Committee as a means of ensuring that municipal views are considered in this proceeding.

E. Program Access Issues

229. The Commission established rules pursuant to the 1992 Cable Act concerning programming arrangements between MVPDs and satellite-delivered program vendors (the "program access" rules).⁷³⁷ These rules prohibit unfair competition and discriminatory practices by cable operators and certain vertically-integrated programmers⁷³⁸ that may inhibit competition.⁷³⁹ In addition, the program access rules prohibit exclusive distribution contracts for satellite cable or broadcast programming between vertically integrated cable operators and programmers, unless the parties can demonstrate to the Commission that the contract is in the public interest.⁷⁴⁰

230. As the Commission has consistently noted, exclusive arrangements can be used to deter entry and inhibit competition from other MVPDs in markets for the delivery of multichannel video programming.⁷⁴¹ We have also recognized, however, that exclusive arrangements can produce efficiency benefits for the parties involved, and may increase competition, which can produce lower prices and increased choice for consumers

⁷³⁶This petition was filed in the Commission's digital television proceeding, MM Dkt. No. 87-268. In the *DTV Tower Notice*, the Commission stated that this petition would be treated as one filed pursuant to 47 C.F.R. § 1.401 seeking the institution of a new rule making proceeding. *DTV Tower Notice*, 12 FCC Rcd at 12504 n.1. See also NAB Reply Comments at 36-37. The Petitioners propose a rule that would: (a) provide specific time limits for state and local government action in response to requests for approval of the placement, construction or modification of broadcast transmission facilities; (b) remove from local consideration certain types of restrictions on the siting and construction of transmission facilities, including regulations based on the environmental or health effects of radio frequency ("RF") emissions, interference with other telecommunications signals and consumer electronics devices, and tower marking and lighting requirements provided that the facility has been determined by the Commission to be in compliance with applicable federal rules; (c) preempt all state and local land use, building, and similar laws, rules or regulations that impair the ability of licensed broadcasters to place, construct or modify their transmission facilities unless the promulgating authority can demonstrate that the regulation is reasonable in relation to a clearly defined and expressly stated health or safety objective other than the categorical preemptions described above; and (d) provide for expeditious review by the Commission of any denial of a request by a state or local government. *DTV Tower Notice*, 12 FCC Rcd at 12506-7 and 12520-22 ¶¶ 5-9 and Appendix B.

⁷³⁷The Commission's program access are set forth at 47 C.F.R. §§ 76.1000-76.1003, and the program carriage rules are set forth at 47 C.F.R. §§ 76.1300-76.1302. See also 47 U.S.C. 536(a)(2); 47 U.S.C. § 548.

⁷³⁸A vertically-integrated programmer is one that shares ownership interests in common with one or more cable system operators (See *1996 Report*, 12 FCC Rcd at 4429 n. 398).

⁷³⁹*1995 Report*, 11 FCC Rcd at 2155 ¶ 157; *1994 Report*, 9 FCC Rcd at 7520-22 ¶¶ 157-60, 7528-30 ¶¶ 173-78.

⁷⁴⁰47 C.F.R. § 76.1002(c)(2).

⁷⁴¹*E.g.*, *1990 Report*, 5 FCC Rcd at 5021-32 ¶¶ 112-30; *1995 Report*, 11 FCC Rcd at 2135 ¶ 158.

in programming and distribution markets.⁷⁴² By targeting and eliminating those vertical restraints that can impair competition in markets for the distribution of multichannel video programming, the Commission's enforcement of its program access rules is designed to contribute to the long-term performance of both distribution markets and programming markets.⁷⁴³ Indeed, the program access rules have been credited as having been a necessary factor in the development of both the DBS and MMDS industries.⁷⁴⁴

231. In the *1996 Report*, the Commission recognized that improved technology and lower costs are improving the efficiency of terrestrial distribution of programming, particularly over fiber-optic facilities. We noted that, as a result, it appears that it may become possible for a vertically-integrated programmer to switch from satellite delivery to terrestrial delivery for the purpose of evading the Commission's rules concerning access to programming.⁷⁴⁵ In its comments, BellSouth asserts that Cablevision Systems Corp., which controls the rights to much of the sports programming in the New York City metropolitan area, will soon launch a fiber-based version of its popular SportsChannel New York service in order to avoid its program access obligations to competing DBS and wireless cable operators. BellSouth contends that marketplace developments have outpaced the original scope of the program access rules, which in their original form did not contemplate that programmers would eventually have the capability of delivering their services through fiber rather than through satellite transmission.⁷⁴⁶

232. BellSouth urges the Commission to commence a rulemaking proceeding to either amend its rules or, where necessary, make recommendations to Congress which at a minimum (1) extend the program access rules to all programmers and broadcast television stations, regardless of whether they are vertically integrated or whether they are satellite-delivered, and (2) prohibit cable programming vendors and local broadcast television stations from requiring video distributors to carry any other programming channel as a condition of granting retransmission consent.⁷⁴⁷

233. According to BellSouth, as horizontal concentration of the cable industry increases, a very small number of operators will control systems in most, if not all, of the largest markets in the country. According to BellSouth, this means that non-vertically integrated programming services will have

⁷⁴²See, e.g., *1990 Cable Report*, 5 FCC Rcd at 5008-11 ¶¶ 82-91, 5031-32 ¶¶ 129-30; *1995 Report*, 11 FCC Rcd at 2135 ¶ 158. See *Memorandum Opinion and Order and Notice of Proposed Rulemaking*, FCC 97-415 (rel. Dec. 18, 1997) at ¶ 4, citing Report of the House Committee on Energy and Commerce, H.R. Rep. No. 102-628, 102d Cong., 2d Sess. 41 (1992).

⁷⁴³E.g., *1995 Report*, 11 FCC Rcd at 2135 ¶ 158.

⁷⁴⁴E.g., Eric Schine, *Digital TV: Advantage, Hughes*, Bus. Week, Mar. 13, 1995, at 14; *The Wireless Cable Industry*, Dillon Read Equity Research, Aug. 22, 1994, at 3.

⁷⁴⁵*1996 Report*, 12 FCC Rcd at 4435 ¶ 154.

⁷⁴⁶BellSouth Comments at 15.

⁷⁴⁷*Id.* at 16.

unprecedented incentives to maintain exclusive distribution arrangements with large MSOs.⁷⁴⁸ BellSouth, in reference to Fox News/fX and MSNBC as "cable exclusive" programming, fully expects this trend to become more pronounced in the wake of recently announced joint ventures between non-vertically integrated programmers (e.g., Fox and Microsoft) and vertically integrated cable operators such as TCI, Time Warner, Cablevision and Comcast.⁷⁴⁹

234. BellSouth states that a possible vehicle for amending the program access rules is the recent Petition for Rulemaking filed by Ameritech New Media, Inc. (RM-9097), in which Ameritech proposes that the Commission: (a) guarantee expedited review by imposing specific time deadlines for resolving program access cases; (b) institute a right of discovery to enable complainants to obtain information necessary to prove Section 628 violations; and (c) institute economic penalties in the form of fines or charges to create an economic disincentive discouraging Section 628 violations.⁷⁵⁰ WCAI and DIRECTV have asked the Commission to expand the scope of the Ameritech proceeding to include consideration of the issues raised above by BellSouth.⁷⁵¹ DIRECTV alleges that MVPDs continue to experience difficulties in obtaining access to certain programming, such as sports programming, that is indispensable to their ability to compete with cable operators. DIRECTV requests that the Commission address the potential "loopholes" in its program access rules that enable those rules to be exploited by those MVPDs that wield market power.⁷⁵² DIRECTV also suggests that, given that the program access rules will expire in the year 2002, the Commission should recommend to Congress that the rules be extended, and that the changes requested above be incorporated into the statute as necessary.⁷⁵³ In addition, on September 23, 1997, DIRECTV filed a complaint with the Commission, alleging that Comcast, a major cable television provider in the Philadelphia area, has refused to make Comcast SportsNet, its regional sports network, available to DIRECTV for its subscribers in the Philadelphia area.⁷⁵⁴

235. WCAI asserts that the past year's joint ventures between programmers not traditionally considered to be vertically integrated and highly vertically integrated cable operators strongly suggests that the present definition of "vertical integration" is too narrow. WCAI states that the definition fails to encompass the broad variety of business relationships with the cable industry that clearly threaten the availability of programming to cable's competitors. In this regard, a number of the more notable cable programming services introduced over the past year are owned by entities that would not be viewed as vertically integrated under a

⁷⁴⁸*Id.* at 12.

⁷⁴⁹*Id.* at 13.

⁷⁵⁰Ameritech Petition at 1-2.

⁷⁵¹See WCAI Reply Comments, RM-9097 at 3-4 (filed July 17, 1997); DIRECTV Comments, RM-9097 at 3-4 (filed July 2, 1997).

⁷⁵²DIRECTV Comments at 5.

⁷⁵³*Id.* at 7.

⁷⁵⁴See complaint of DIRECTV, filed Sept. 23, 1997.

traditional analysis of that term, e.g., MSNBC (Microsoft and NBC).⁷⁵⁵ This is argued to be a particular concern when services, such as NBC or Nickelodeon, promote and advertise services, such as MSNBC or TV Land, that are sold on an exclusive basis and are unavailable to some competitors.⁷⁵⁶

236. Viacom notes that the Commission has determined that there may be circumstances in which exclusivity is appropriate, particularly as it applies to new programming, even where vertical integration exists. It suggests that exclusive agreements are part of the free market system and should only be regulated for specific reasons. Viacom argues that exclusivity agreements benefit both the non-vertically integrated program producers and the cable operators. These agreements can minimize some of the risk which cable operators take when they carry new programming produced by non-vertically integrated program providers. Otherwise, Viacom suggests that competing operators who do not take the risk gain a "free ride" as they do not assume any of the costs and risks by carrying the new, unproven programming. Without exclusivity, cable systems are often less willing to devote the same level of promotional effort and expenditures. Viacom believes that exclusivity benefits program producers in two ways. In the short term, exclusivity agreements enable the independent program producers to secure carriage on cable systems where their programming receives exposure. Because of exclusivity, cable operators will expend enormous efforts to advertise the programming to viewers to ensure its success. In the long run, the agreements provide a future market for new, costly and/or innovative programming.⁷⁵⁷ Furthermore, Viacom points out that those who argue for access to particular programming also want the right to refuse to carry packages of programming.⁷⁵⁸

237. The Commission has resolved eight programming access cases since the *1996 Report*. These cases are described in Appendix G. In addition, on December 18, 1997, the Commission released a *Memorandum Opinion and Order and Notice of Proposed Rulemaking ("Program Access Notice")* concerning the program access rules.⁷⁵⁹ In the *Program Access Notice*, we seek comment on: (a) whether the Commission should guarantee expedited review of program access complaints by imposing specific time deadlines for resolving program access cases; (b) whether the Commission should institute discovery as of right to enable complainants to obtain information necessary to prove program access violations; (c) whether the Commission should impose damages in order to discourage violations of section 628; (d) whether the program access rules apply to previously satellite-delivered programming which is converted to terrestrial delivery with the effect of constituting an "unfair method[] of competition or unfair or deceptive act[] or practice[], the purpose or effect of which is to hinder significantly or to prevent any multichannel video programming distributor from

⁷⁵⁵WCAI Comments at 10.

⁷⁵⁶Statement of Matthew Oristano, Chairman, People's Choice TV, on behalf of the WCAI, at the Dec. 18, 1997 Commission meeting.

⁷⁵⁷Viacom Reply Comments at 4-5.

⁷⁵⁸*Id.* at 9.

⁷⁵⁹*Petition for Rulemaking of Ameritech New Media, Inc. Regarding Development of Competition and Diversity in Video Programming Distribution and Carriage*, CS Dkt. No. 97-248, RM No. 9097, Memorandum Opinion and Order and Notice of Proposed Rulemaking, FCC 97-415 (rel. Dec. 18, 1997).

providing satellite cable programming or satellite broadcast programming to subscribers or consumers.",⁷⁶⁰ and (e) whether the program access rules should be amended to provide that any cooperative buying group that maintains adequate financial reserves should not require its members to provide joint and several liability for commitments of the group.

238. On its face, Section 628 does not preclude a programmer from altering its distribution method from satellite-distribution to terrestrial-distribution.⁷⁶¹ In the *Program Access Notice*, we noted that in its comments, DIRECTV seemed to suggest that it contravenes the spirit, if not the letter, of Section 628 if a vertically-integrated programmer moves from satellite-delivered programming to terrestrial-delivered programming for the purpose of evading the program access requirements.⁷⁶² Such an action could arguably constitute an "unfair method[] of competition or unfair or deceptive act[] or practice[], the purpose or effect of which is to hinder significantly or to prevent any multichannel video programming distributor from providing satellite cable programming or satellite broadcast programming to subscribers or consumers."⁷⁶³ The *Program Access Notice* seeks comment on appropriate ways to address such situations. It specifically asks commenters to address the statutory basis for any suggested remedial action and whether legislation is needed. It also seeks comment on whether programming that has been moved from satellite to terrestrial delivery can or should be subject to program access requirements based on the effect, rather than the purpose, of the programmer's action.

F. Horizontal Ownership Limits

239. Section 11(c) of the 1992 Cable Act directed the Commission to set limits on the number of cable subscribers that can be reached by an MSO.⁷⁶⁴ In October 1993, the Commission adopted rules providing that no MSO could pass more than 30% of the households passed by cable nationwide.⁷⁶⁵ The cable systems attributable to an MSO are calculated by reference to the attribution rules that the Commission historically has imposed on broadcasters.⁷⁶⁶ The Commission's rules permit an MSO to pass an additional 5% of cable subscribers, where the cable systems passing the additional subscribers are minority controlled.⁷⁶⁷ In

⁷⁶⁰Communications Act § 628(b), 47 U.S.C. § 548(b).

⁷⁶¹*Program Access Notice* at ¶ 51.

⁷⁶²*Id.*

⁷⁶³*Id.* Communications Act § 628(b), 47 U.S.C. § 548(b).

⁷⁶⁴Section 11(c) of the 1992 Cable Act added Section 613(f) to the Communications Act, 47 U.S.C. § 533(f).

⁷⁶⁵47 C.F.R. § 503. See also *In the Matter of Implementation of Sections 11 and 13 of the Cable Television Consumer Protection and Competition Act of 1992, Horizontal and Vertical Ownership Limits*, MM Docket No. 92-264, Second Report and Order, 8 FCC Rcd 8565 (1993).

⁷⁶⁶47 C.F.R. §§ 76.501, 76.503(f).

⁷⁶⁷47 C.F.R. § 76.503(b).

September 1993, the D.C. District Court held in *Daniels Cablevision, Inc. v. United States*⁷⁶⁸ that Section 11(c) violated the First Amendment. The court stayed further District Court proceedings pending an interlocutory appeal of its judgment but did not enjoin the Commission from adopting and enforcing rules limiting horizontal concentration.⁷⁶⁹

240. The Commission voluntarily stayed the effective date of its rules until final judicial resolution of the *Daniels* decision.⁷⁷⁰ In December 1993, the Center for Media Education/Consumer Federation of America filed a Motion to Lift the Stay and a Petition for Reconsideration. Bell Atlantic also filed a separate Petition for Reconsideration. The following month, Time Warner challenged the stayed rules in the D.C. Circuit Court in *Time Warner Entertainment Co., L.P. v. FCC*, No. 94-1035 (D.C. Cir. 1994). In August 1996, the D.C. Circuit Court consolidated the *Daniels* appeal regarding the facial validity of the statute and the *Time Warner* challenge to the Commission's rules, and determined to hold court proceedings in abeyance while the Commission reconsidered its horizontal rules.⁷⁷¹ Most recently, on September 23, 1997, the Consumers Union and Consumer Federation of America submitted a petition to the Commission requesting, among other things, that the Commission lift the stay on its horizontal ownership rules and reevaluate its current horizontal ownership limits.⁷⁷²

G. Copyright Act

241. The major copyright issues affecting competition in multichannel video programming distribution involve the compulsory licenses for, respectively, satellite and cable retransmission of broadcast signals.⁷⁷³ These issues include whether the licenses should continue to exist; the level of license fees; the degree of comparability between the satellite and cable compulsory licenses and fees, including whether the satellite license should allow satellite retransmission of local signals within broadcasters' local markets, which the cable compulsory license allows for cable operators; definition of local and distant broadcast signals for retransmission purposes; the applicability of the cable compulsory license to OVS systems and providers; and whether to extend compulsory licensing to Internet retransmission of broadcast signals. Recently, the Copyright Office issued a report, described below, concerning these and other broadcast retransmission

⁷⁶⁸*Daniels Cablevision, Inc. v. United States*, 835 F. Supp. 1, 10 (D.D.C. 1993), *aff'd in part*, *Time Warner Entertainment Co., L.P. v. FCC*, 93 F.3d 957 (D.C. Cir. 1996).

⁷⁶⁹*Id.* at 12.

⁷⁷⁰*In the Matter of Implementation of Sections 11 and 13 of the Cable Television Consumer Protection and Competition Act of 1992, Horizontal and Vertical Ownership Limits*, MM Docket No. 92-264, Second Report and Order, 8 FCC Rcd at 8567 ¶ 3.

⁷⁷¹*Time Warner Entertainment Co., L.P. v. FCC*, 93 F.3d 957, 979-80 (D.C. Cir. 1996).

⁷⁷²*See* Consumers Union Petition, fn. 11 *supra*.

⁷⁷³The Copyright Act, 17 U.S.C § 101 *et seq.*, establishes the rights of owners of programming and other copyrighted works of authors and, in the case of compulsory licensing, allows non-owners to use programs and other works subject to certain payment and other conditions. Administratively, these copyright provisions fall under the jurisdiction of the Library of Congress,

issues⁷⁷⁴ and the Librarian of Congress issued an *Order*, also described below, concerning royalty rates for satellite retransmission of broadcast signals.

242. Several commenters advocated copyright law changes that would allow satellite carriers to provide broadcast network programming to all consumers, thereby enabling DBS distributors to compete effectively against other MVPDs.⁷⁷⁵ SBCA, NRTC, and PrimeTime24 contend that the satellite compulsory license to retransmit broadcast network signals is anticompetitive because the license is limited to retransmission to "unserved households."⁷⁷⁶ These commenters claim, among other things, that the current definition of an "unserved household" does not adequately capture all households that cannot receive clear television pictures from over-the-air broadcasts.⁷⁷⁷ In addition, NRTC and SBCA advocate a compulsory network broadcast retransmission license which would allow satellite retransmission to all subscribers, with satellite retransmitters compensating local stations.⁷⁷⁸ NRTC contends that the inability of satellite carriers to retransmit network signals to "served" households is contrary to the purposes of the 1996 Act and the nation's pro-competitive telecommunication policies.⁷⁷⁹ SBCA notes that the satellite compulsory license, embodied in Section 119 of the Copyright Act, is not permanent, while the cable compulsory license to retransmit network broadcast signals is permanent.⁷⁸⁰ In addition, Bell Atlantic seeks confirmation that open video systems meet the copyright statute's definition of a cable system, so that OVS operators and programmers may use the cable compulsory copyright license.⁷⁸¹

243. *Copyright Office.* On August 1, 1997, the Copyright Office released its Retransmission Report concerning copyright licensing of the retransmission of broadcast signals. The Retransmission Report contains several significant recommendations to Congress regarding cable and satellite retransmission of

⁷⁷⁴A Review of the Copyright Licensing Regimes Covering Retransmission of Broadcast Signals, United States Copyright Office, August 1, 1997 ("Retransmission Report").

⁷⁷⁵See NRTC Comments at 12-17; PrimeTime 24 Comments at 2-7; SBCA Comments at 18-23. These commenters acknowledge that copyright law does not fall within the Commission's jurisdiction. See, e.g., PrimeTime 24 Comments at 2; SBCA Comments at 18.

⁷⁷⁶"Unserved households" are defined as homes that cannot receive a signal of Grade B intensity from a local network station through the use of a conventional rooftop antenna, and have not received the local network affiliate through a cable subscription within the previous 90 days. 17 U.S.C. § 119(d)(10).

⁷⁷⁷See NRTC Comments at 17; PrimeTime24 Comments at 4-8; SBCA Comments at 21.

⁷⁷⁸NRTC Comments at 16; SBCA Comments at 23. NRTC also proposes that networks compensate satellite carriers for adding value to the network signal by increasing the audience reach of the networks beyond the area of affiliate exclusivity. NRTC Comments at 17.

⁷⁷⁹*Id.* at 17.

⁷⁸⁰SBCA Comments at 18-19.

⁷⁸¹Bell Atlantic Comments at 7-8. Bell Atlantic claims that OVS providers would have to negotiate individually with each copyright holder of each program on each broadcast or must carry station included in the programmer's line-up if OVS providers were not able to use the compulsory copyright license, and that this would make the OVS option impracticable.

broadcast signals. The Copyright Office recommends equal treatment of multichannel video programming delivery systems (except to the extent that technological differences or differences in regulatory burdens justify different copyright treatment),⁷⁸² including equalization of cable and satellite compulsory license fees (except for such fee differences as are justified by regulatory, technological or economic factors),⁷⁸³ continuation of the satellite compulsory retransmission license for as long as cable operators have a compulsory retransmission license,⁷⁸⁴ and inclusion of OVS systems as entities eligible for use of the cable compulsory license;⁷⁸⁵ eventual termination of compulsory licensing for retransmission of broadcast signals;⁷⁸⁶ adjustment of license fees to reflect fair market value;⁷⁸⁷ equalization of independent station and network signal retransmission fees and provision of cable retransmission royalty rights to owners of network programming (as exists for satellite retransmission royalties),⁷⁸⁸ simplification of the cable compulsory license rate structure,⁷⁸⁹ reduction of the

⁷⁸²Retransmission Report at 34-35 (endorsing "the goal of removing differences between the licenses where possible, so that the compulsory licenses should have the least possible impact on the competitive balance between satellite carriers and cable systems, while, at the same time, retaining differences that are justified by the regulatory and technological contexts of the two industries.")

⁷⁸³*Id.* at 60.

⁷⁸⁴*Id.* at 33-35.

⁷⁸⁵*Id.* at 75-77 (suggesting amendment of section 111 to facilitate the eligibility of open video systems for the cable compulsory license); *see id.* at 61-74.

⁷⁸⁶The Copyright Office believes that broadcast retransmission licensing would best be accomplished through negotiations between collectives representing program copyright owners and program users, or other market mechanisms. Retransmission Report at iv, 33. Accordingly, the Office would prefer to see the eventual termination of both the cable and satellite compulsory licenses. *Id.* at iv, 12, 33. The Copyright Office currently recommends the continuation these compulsory licenses, however, because the licenses have become "an integral part of the means of bringing video services to the public, . . . business arrangements and investments have been made in reliance upon them, and . . . at this time, the parties advocating such elimination have not presented a clear path toward terminating the licenses." *Id.* at 33; *see id.* at iv.

⁷⁸⁷The Copyright Office recommends that every five years a Copyright Arbitration Royalty Panel should set cable and satellite per subscriber, per signal retransmission license rates at their respective full fair market values. Retransmission Report at 59-60. *See* Retransmission Report at 59-60 (recommending fair market value standard for cable retransmission fees); Satellite Home Viewer Act of 1994, 17 U.S.C. § 119(c)(3)(D)(1994) (setting forth a fair market value standard for satellite retransmission fees). The Librarian of Congress recently issued an order establishing satellite license rates determined by a CARP pursuant to these criteria. *See* Report of the Panel, Rate Adjustment for the Satellite Carrier Compulsory License, Copyright Office, Library of Congress, Docket No. 96-3 CARP-SRA; 62 Fed. Reg 55746 (1997), and discussion below.

⁷⁸⁸Retransmission Report at 131-34. Owners of copyrights in network programming (as opposed to owners of local programming contained in network affiliate broadcasts) are not eligible to participate in the distribution of cable compulsory license fees, 17 U.S.C. § 111(d)(3), but are eligible to participate in the distribution of satellite compulsory license fees, 17 U.S.C. § 119. *See* Retransmission Report at 7, 132-33.

⁷⁸⁹Retransmission Report at 41-42, 49-59; *see id.* at 36-41.

small cable system subsidy;⁷⁹⁰ and retention of the minimum retransmission fee applicable to all cable systems.⁷⁹¹ The Copyright Office also recommended postponing, as premature, any action concerning compulsory licensing of Internet retransmission of broadcast signals.⁷⁹²

244. The Copyright Office recommends that section 119's compulsory license for satellite retransmission be extended to allow retransmission of all television broadcast station signals, commercial and noncommercial, within each station's local market, defining a commercial station's local market in accordance with the Commission's rules⁷⁹³ and defining a noncommercial station's local market as all communities wholly or partially within 50 miles of each station's community of license. The Office notes that technological advances may enable satellite carriers to retransmit local affiliates' network signals to subscribers within the stations' respective local markets, thus eliminating the need to import distant network signals.⁷⁹⁴

245. The Copyright Office rejects the concept of defining unserved households by a picture quality standard instead of the current Grade B signal standard as "too subjective, legally insufficient, and administratively unworkable."⁷⁹⁵ The Copyright Office also finds the Grade B standard to be "less than precise and cost inefficient when applied to individual household determinations."⁷⁹⁶ The Copyright Office notes that future widespread use of over-the-air digital television may allow a clear standard for determining when a household receives a good quality television picture from an over-the-air signal.⁷⁹⁷

246. *Librarian of Congress.* The 1994 amendments to the Copyright Act required satellite compulsory license fees for retransmission of broadcast signals to be set at "fair market value," considering the competitive distribution environment, the economic impact of the fees on copyright owners and satellite carriers, and the continued availability of retransmissions to the public.⁷⁹⁸ On October 27, 1997, the Librarian

⁷⁹⁰*Id.* at 42-45.

⁷⁹¹*Id.* at 133-34. The minimum copyright royalty applies to all systems, including those retransmitting only local signals. 17 U.S.C. § 111(d)(1)(B), (C) and (D).

⁷⁹²Retransmission Report at 92-98.

⁷⁹³17 U.S.C. § 111(f) (Definition of "local service area of a primary transmitter.") A commercial television station's local market for copyright purposes coincides with its local market defined by the Commission's must carry rules, 47 C.F.R. §§ 76.55(e) and 76.59. Currently, the Commission uses Arbitron's Area of Dominant Influence ("ADI"). Effective January 1, 2000, Nielsen's Designated Market Area ("DMA") definition will apply. Under Section 76.59, these markets may be modified to include or exclude communities as a result of Commission decisions on individual requests.

⁷⁹⁴Retransmission Report at 117-130.

⁷⁹⁵*Id.*

⁷⁹⁶*Id.*

⁷⁹⁷*Id.*

⁷⁹⁸Satellite Home Viewer Act of 1994, Pub. L. No. 103-369, 103 Stat. 3477 (1994) (codified, in relevant part, as (continued...))

of Congress issued a final order setting a monthly rate of 27 cents per subscriber for satellite retransmission of distant signals.⁷⁹⁹ This is an increase of 21 cents, from 6 cents per subscriber, for distant network signals and an increase of 9.5 cents, from 17.5 cents per subscriber, for distant superstation signals.⁸⁰⁰ The Librarian's order also set a rate of zero for retransmission of local superstation signals and for local network signals retransmitted to unserved households.⁸⁰¹ These rates are to become effective January 1, 1998.⁸⁰²

247. DBS operators' current lack of local broadcast programming impairs DBS services' competitiveness with cable service. A consideration of satellite services' carriage of local or other network programming would include a balance of the possibility of private negotiation for program rights, the scope of any compulsory satellite license or other copyright limitations, the scope of any must carry or other carriage obligations, and the extent of statutory parity between cable and DBS. In considering possible changes in copyright, existing differences between the copyright treatment of cable retransmissions and of satellite retransmissions should be removed where possible so that the compulsory licenses do not affect the competitive balance between the satellite carrier and cable industries.

H. MVPD Carriage of Broadcast Signals

248. The mandatory carriage or "must carry" provisions of the Communications Act and Commission's rules affect the mix of programming offered by cable and OVS operators as those entities are obligated to carry certain qualified local broadcast stations.⁸⁰³ Pursuant to the Communications Act, cable and

⁷⁹⁸(...continued)
17 U.S.C. § 119(c)(3)(D) (1994)).

⁷⁹⁹Order of the Librarian, October 23, 1997, 62 Fed. Reg. 55742, 55759 (1997) (rates to be codified at 37 C.F.R § 258.3). The Librarian's Order accepts the rate recommendations of a Copyright Arbitration Royalty Panel ("CARP") convened to propose new rates for retransmissions under section 119 of the Satellite Home Viewer Act, 17 U.S.C. § 119. See 62 Fed. Reg. 55744 *et seq.*

⁸⁰⁰See *id.* at 55743-44; 37 CFR § 258.3 (stating rates commencing May 1, 1992, to include, in addition to the 6 cent and 17.5 cent rates noted in the text, a rate of "14 cents per subscriber per month for superstations whose signals are syndex-proof, as defined in § 258.2").

⁸⁰¹Order of the Librarian, October 23, 1997, 62 Fed. Reg. 55742, 55759 (1997) (rates to be codified at 37 C.F.R § 258.3). The royalty rates for cable compulsory license retransmission of distant signals are set in accordance with a complicated and technical formula (except rates paid by smaller cable systems, which are set at a flat rate or at a percentage of gross receipts from broadcast signals, but which apply to a small minority of cable compulsory license payments). SBCA presented testimony to the CARP indicating that cable operators pay section 111 retransmission royalties of 9.8 cents per subscriber per month for superstation signals and 2.45 cents per subscriber per month for broadcast network signals. *Id.* at 55746.

⁸⁰²*Id.* at 55759.

⁸⁰³Sections 614 and 615 concerning the must carry rights of commercial and noncommercial television stations, respectively, and Section 325, which provides for retransmission consent, were added by the 1992 Cable Act. The 1996 Act extended these provisions to encompass OVS as well as cable. On March 31, 1997, the Supreme Court upheld the must carry provisions of the 1992 Cable Act. *Turner Broadcasting v. FCC*, 117 S.Ct. 1174 (1997). In
(continued...)

OVS operators have an obligation to set aside a specified number of channels, based on their total channel capacity for the carriage of local broadcast signals.⁸⁰⁴ Under these statutory provisions and the Commission's rules, commercial broadcast television stations may elect whether they will be carried by local cable television systems or open video systems under the must carry or retransmission consent rules.⁸⁰⁵ A station electing must-carry rights is entitled to insist on cable carriage in its local market area, which the Commission currently defines in terms of Arbitron's areas of dominant influence.⁸⁰⁶ Under retransmission consent, the station and the cable or OVS operator negotiate a carriage arrangement and the station is permitted to receive compensation or other consideration in return for carriage. Broadcast stations are required to make this election every three years.⁸⁰⁷ Noncommercial educational broadcast television stations are entitled to request must carry status if they are licensed to a community within 50 miles of the cable system headend or they place a Grade B contour over the system's principal headend.⁸⁰⁸ They do not have the right to elect retransmission consent.

249. The Cable Services Bureau has acted on 452 must carry complaints since the passage of the 1992 Cable Act. Of these cases, 245 complaints were granted and 207 were either dismissed or denied. The Bureau also has acted on 206 market modification requests since the passage of the 1992 Cable Act.⁸⁰⁹ Of these cases, 145 requests were granted and 61 requests were either dismissed or denied.

250. As part of the must carry provisions of the 1992 Cable Act, Congress directed the Commission to initiate a proceeding at the time that we prescribe modified standards for advanced television, now referred to as digital television ("DTV"). This section required the Commission "to establish any changes in the signal

⁸⁰³(...continued)

its decision, the Court emphasized that preserving the benefits of free, over-the-air broadcast television and promoting the widespread dissemination of information from a multiplicity of sources were important governmental interests.

⁸⁰⁴47 U.S.C. § 534(a), (b)(1), 47 C.F.R. § 76.56(b) (obligations to carry local commercial stations); 47 U.S.C. § 535(a), (b); 47 C.F.R. § 76.56(a) (obligations to carry qualified noncommercial stations).

⁸⁰⁵47 U.S.C. § 325(b)(3)(B); 47 C.F.R. § 76.64(f).

⁸⁰⁶47 U.S.C. § 534(h)(1)(C); 47 C.F.R. § 76.55(e). Beginning in 2000, television markets will be based on A.C. Nielsen's Designated Market Areas ("DMAs"). See *Definition of Markets for Purposes of the Cable Television Mandatory Television Broadcast Signal Carriage Rules, Implementation of Section 301(d) of the Telecommunications Act of 1996, Market Determinations*, CS Dkt. No. 95-178, Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 6201, 6220-4 ¶¶ 39-48 (1996). The 1992 Cable Act also provides that the Commission may modify television markets for must carry purposes upon request. 47 U.S.C. § 534(h)(1)(C); 47 C.F.R. § 76.59.

⁸⁰⁷47 U.S.C. § 325(b)(3)(B); 47 C.F.R. § 76.64(f). The next election must be made by October 1, 1999, and will become effective on January 1, 2000.

⁸⁰⁸47 U.S.C. § 535(l); 47 C.F.R. § 76.55(b).

⁸⁰⁹Under the must-carry provisions of the Communications Act, upon written request, the Commission may modify television markets to include or exclude communities from the television market of a particular television station. 47 U.S.C. § 534(h)(1)(C); 47 C.F.R. § 76.59.

carriage requirements of cable television systems necessary to ensure cable carriage of such broadcast signals of local commercial television stations which have been changed to conform with such modified standards."⁸¹⁰ In the 1996 Act, Congress stated that no ancillary or supplementary broadcast service shall have must carry rights.⁸¹¹ In the legislative history clarifying this language, Congress also stated that it did not intend "to confer must carry status on advanced television or other video services offered on designated frequencies"⁸¹² and added that the "issue is to be the subject of a Commission proceeding under section 614(b)(4)(B) of the Communications Act."⁸¹³

251. In the context of adopting digital television standards, the Commission sought comment on relevant must carry rules or policies that might be needed both during the transition to DTV and once DTV has replaced the current analog system.⁸¹⁴ While the Commission has received comments on DTV signal carriage issues,⁸¹⁵ we intend to seek further comment.⁸¹⁶ Depending on the rules that the Commission may ultimately adopt, if any, cable and OVS operators subject to the must carry rules would be required to allocate a portion of their channel capacity to the carriage of DTV signals. Must carry obligations would, therefore, affect the types and variety of services that cable and OVS operators could offer their subscribers in competition with other MVPDs.

252. The carriage of local broadcast signals by any other MVPD is subject to retransmission consent from the broadcast station licensee.⁸¹⁷ In addition, under the Copyright Act, satellite providers

⁸¹⁰This provision is codified as Section 614(b)(4)(B) of the Communications Act, 47 U.S.C. § 543(b)(4)(B).

⁸¹¹47 U.S.C. § 336(b)(3) which was added to the Communications Act by Section 201 of the 1996 Act.

⁸¹²Conference Report at 161.

⁸¹³*Id.*

⁸¹⁴*Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, MM Dkt. No. 87-268, Fourth Notice of Proposed Rulemaking and Third Notice of Inquiry, 10 FCC Rcd 10540, 10552-10554 (1995).

⁸¹⁵We note that this request for comment was made while judicial review of the constitutionality of the must carry rules was pending. On March 31, 1997, the Supreme Court upheld the constitutionality of the must carry rules. *Turner Broadcasting v. FCC*, 117 S.Ct. 1174 (1997).

⁸¹⁶In the *Fifth Report and Order*, the Commission stated that "[i]n order to obtain a full and updated record on the applicability of the must carry and retransmission consent provisions in the digital context, particularly in light of the *Turner II* [the March 31, 1997, must-carry decision], we intend to issue a Notice to seek addition comment on these issues." See *Fifth Report and Order*, 12 FCC Rcd at 12853 ¶ 106.

⁸¹⁷47 U.S.C. § 325(b)(1); 47 C.F.R. § 76.54(a).

are prohibited from delivering any broadcast television network signals,⁸¹⁸ except in areas that are unserved by over-the-air signals.⁸¹⁹ Satellite providers appear to believe that local signals are an important part of any programming package. As noted in last year's report, in response to a request for a declaratory ruling from ASkyB that DBS operators may, under the satellite carrier compulsory license,⁸²⁰ retransmit the signals of network affiliated television broadcast stations within their local markets, the Copyright Office stated that "inclusion of locally retransmitted network stations is not subject to challenge by the Copyright Office."⁸²¹ Recent advertising by DBS entities emphasize that when combined with an indoor or outdoor antenna, a DBS dish can provide the same complement of local broadcast signals as cable television service.⁸²² Earlier this year, EchoStar announced plans to distribute local broadcast signals in 22 local markets serving 43% of all U.S. television households.⁸²³ To add local broadcast signals to its service, EchoStar launched a satellite in October 1997 and plans to launch another satellite in the Spring of 1998.⁸²⁴ Another satellite service, Capitol, has announced that it intends to offer DBS providers a package that includes all commercial television stations within a given station's designated market area.⁸²⁵ However, if DBS or other satellite providers were permitted to retransmit local broadcast television signals, carriage requirements could become an issue relevant for the assessment of competition among MVPDs.

I. Public Service Obligations for DBS

⁸¹⁸17 U.S.C. § 119(a)(2).

⁸¹⁹An "unserved household" is one that cannot receive a signal of Grade B intensity from a local network station through the use of a conventional rooftop antenna, and has not received the local network affiliate through a cable subscription within the previous 90 days. 17 U.S.C. § 119(d)(10).

⁸²⁰17 U.S.C. § 119.

⁸²¹1996 Report, 12 FCC Rcd at 4384-5 ¶ 48, citing Letter from Marilyn Kretsinger, Acting General Counsel, United States Copyright Office, to William S. Reyner, Jr., Esq., Hogan and Hartson (Aug. 15, 1996). The following congressional hearings have been held on the carriage of local broadcast signals by satellite providers: Senate Commerce Committee on April 10, 1997; House Commerce, Telecommunications, Trade and Consumer Protection Committee on October 30, 1997; House Judiciary, Courts and Intellectual Property Committee on October 30, 1997; and the Senate Judiciary Committee on November 12, 1997.

⁸²²See NASA Reply Comment at Exhibits A and B.

⁸²³*Ergonomics Its Local or Bust*, Broadcasting & Cable, Oct. 13, 1997, at 22-28. In addition, as part of a proposed merger between Echostar and ASkyB that was not consummated, plans were announced for a DBS service that would provide some local broadcast service using spot beam technology. See, e.g., *Telecommunications Cable Television, Multichannel Metamorphosis II Digital Derby -- Rounding Turn #1*, Morgan Stanley, April 25, 1997, at 46.

⁸²⁴*Id.*

⁸²⁵See para. 58 *supra*.

253. Section 335 of the Communications Act directed the Commission to initiate a rulemaking to impose public interest or other requirements for providing video programming on DBS service providers.⁸²⁶ Section 335(a) states, among other things, that any regulations shall, at a minimum, apply the political broadcasting rules of the Communications Act to DBS providers, including the access to broadcast time requirement of Section 312(a)(7) and the use of facilities requirements of Section 315. This section also requires the Commission to examine the opportunities that the establishment of DBS service provides for the principle of localism and permits the Commission to impose additional public interest obligations on DBS providers if they are warranted. Section 335(b) mandates that DBS providers reserve between 4% and 7% of their channel capacity exclusively for noncommercial programming of an educational or informational nature and states that DBS providers shall meet this requirement by making channel capacity available to national educational programming suppliers, upon reasonable prices, terms and conditions.⁸²⁷

254. In March 1993, the Commission initiated a proceeding to implement Section 335.⁸²⁸ In September 1993, after the Commission had received comments in this proceeding, the U.S. District Court for the District of Columbia held that Section 335 was unconstitutional.⁸²⁹ This ruling effectively froze the proceeding. On August 30, 1996, the U.S. Court of Appeals for the District of Columbia Circuit reversed the District Court and held that Section 335 was constitutional.⁸³⁰ In January 1997, the Commission issued a Public Notice seeking to update and refresh the record in its proceeding implementing Section 335.⁸³¹

255. In response to the *Notice*, Alliance contends that the Commission should continue to protect the public interest and acknowledge the importance of the effective use of noncommercial channel capacity by DBS program providers as well as cable and OVS operators.⁸³² Alliance suggests that set-aside channels are "functionally equivalent" to the public, educational and governmental ("PEG") requirements on cable systems and therefore create a "level playing field" for all MVPDs. Furthermore, Alliance believes that the set-asides allow the DBS providers to fulfill their public interest obligations by offering a platform for the public to

⁸²⁶Section 335 was added to the Communications Act by Section 25 of the 1992 Cable Act. 47 U.S.C. § 335.

⁸²⁷National educational programming suppliers are defined to include any qualified noncommercial educational television station, other public telecommunications entities, and public or private educational institutions. The Communications Act allows DBS providers to use unused channel capacity required to be reserved under the statute for any purpose pending the actual use of such channel capacity for noncommercial programming of an educational or informational nature.

⁸²⁸*Implementation of Section 25 of the Cable Television Consumer Protection and Competition Act of 1992, Direct Broadcast Satellite Service Obligations*, MM Dkt. No. 93-25, Notice of Proposed Rulemaking ("*Public Service Obligations NPRM*"), 8 FCC Rcd 1589 (1993).

⁸²⁹*Daniels Cablevision, Inc. v. United States*, 835 F. Supp. 1 (D.D.C. 1993).

⁸³⁰*Time Warner Entertainment Co., L.P. v. FCC*, 93 F.3d 957 (D.C. Cir. 1996).

⁸³¹*Implementation of Section 25 of the Cable Television Consumer Protection and Competition Act of 1992, Direct Broadcast Satellite Service Obligations Comments Sought in DBS Public Interest Rulemaking*, MM Dkt. No. 93-25, Public Notice, 12 FCC Rcd 2251 (1997).

⁸³²Alliance Comments at 1.

express its diversity of opinions, to provide a forum for educational and noncommercial information, and to serve the DBS industry's concern for competitive fairness.⁸³³ SBCA states that the DBS public service requirements will be the first rules designed for a national subscription service. Because the programming that will be used to satisfy this obligation must be attractive to a national subscription audience, SBCA contends that the rules must give DBS providers flexibility in designing their public service program packages.⁸³⁴ The Commission is developing a full record in response to the *Public Service Obligations NPRM*.⁸³⁵

J. Navigation Devices

256. Section 629 of the Communications Act requires the Commission, in consultation with appropriate industry standard-setting organizations, to adopt rules to assure the commercial availability of navigation devices from manufacturers, retailers and other vendors not affiliated with any MVPDs.⁸³⁶ Navigation devices are television set-top boxes, converter boxes, interactive communications equipment, and other equipment that a consumer uses to access video programming. The most common navigation devices in use today are the boxes that sit on top of television sets to access cable television which typically include a decrambler and tuner. Section 629 provides that any rules the Commission adopts may not jeopardize the security of video services offered or impede a video programming provider's legal rights to prevent theft of service.⁸³⁷ Multichannel video programming providers may continue to offer equipment as long as they do not subsidize the equipment prices with the charges for their services.⁸³⁸ The rules will lapse when the Commission determines that the markets are competitive and that elimination of such rules would serve the public interest.⁸³⁹

257. In February 1997, the Commission issued a *Notice of Proposed Rulemaking* to implement Section 629.⁸⁴⁰ In the *Navigation Notice*, the Commission sought comment on: (a) a tentative conclusion that Section 629 is broad in scope with respect to equipment and service providers; (b) a tentative conclusion that consumers have a "right to attach" enabling them to obtain equipment from retail outlets and to use it with their programming distributor's system; (c) a recognition that harm to distribution systems must be prevented; (d) a recognition of the need to protect the integrity of equipment designed to prevent unauthorized reception of service and of the continued validity of restrictions on the manufacture and sale of equipment intended to

⁸³³*Id.* at 3, 4.

⁸³⁴SBCA Comments at 13-14.

⁸³⁵SBCA and Alliance have filed comments in response to the *Public Service Obligations NPRM*. See also SBCA and Alliance Comments in MM Docket No. 93-25.

⁸³⁶47 U.S.C. § 549. Section 629 was added to the Communications Act by Section 304 of the 1996 Act.

⁸³⁷47 U.S.C. § 549(b).

⁸³⁸47 U.S.C. § 549(a).

⁸³⁹47 U.S.C. § 549(e).

⁸⁴⁰*Implementation of Section 304 of the Telecommunications Act of 1996 Commercial Availability of Navigational Devices*, CS Docket No. 97-80, Notice of Proposed Rulemaking ("*Navigation Notice*"), 12 FCC Rcd 5639 (1997).

facilitate signal theft; (e) an examination of the feasibility of unbundling security functions from nonsecurity navigation equipment; and (f) an expressed desire to minimize government standard setting and to promote voluntary standard setting.

VI. VIDEO DESCRIPTION

258. The 1996 Act required the Commission to report to Congress on appropriate methods and schedules for phasing video description into the marketplace and other technical and legal issues related to the widespread deployment of video description.⁸⁴¹ In our *Video Accessibility Report* to Congress, we reported on the current status and possible future of video description service but concluded that the record before us was insufficient to assess appropriate methods and schedules for phasing in video description.⁸⁴² Thus, in the *Notice* on video competition, we requested information regarding video description that will permit us to provide Congress with additional findings. We specifically solicited data on: the number of broadcast television stations and MVPDs currently capable of transmitting and decoding a secondary audio programming ("SAP") signal and the costs of adding this capability; the cost of providing video description and possible funding mechanisms; whether the implementation of digital technologies will provide additional audio channels that will increase the feasibility of video description; specific methods and schedules for ensuring that video programming includes descriptions; technical and quality standards; any current efforts to coordinate new technology standard-setting and funding mechanisms; and other relevant legal and policy issues.⁸⁴³

259. Video description is an aural description of a program's key visual elements that is inserted during natural pauses in program dialogue.⁸⁴⁴ It generally describes actions that are not otherwise reflected in the dialogue, such as the movement of a person in a scene. Since consumers may find the additional narrative intrusive or distracting, programmers typically use technology designed to allow the viewer to choose whether or not to receive video description. The most widespread video description technology uses the SAP channel, a subcarrier that allows each video programming distributor to transmit a second soundtrack.⁸⁴⁵ Use

⁸⁴¹47 U.S.C. § 613(f). Specifically, Section 713(f) of the Communications Act states that the Commission must "commence an inquiry to examine the use of video descriptions on video programming in order to ensure the accessibility of video programming to persons with visual impairments, and report to Congress on its findings. The Commission's report shall assess appropriate methods and schedules for phasing video descriptions into the marketplace, technical and quality standards for video descriptions, a definition of programming for which video descriptions would apply, and other technical and legal issues that the Commission deems appropriate."

⁸⁴²*Closed Captioning and Video Description of Video Programming, Implementation of Section 305 of the Telecommunications Act of 1996, Video Programming Accessibility*, MM Docket No. 95-176, Report ("*Video Accessibility Report*"), 11 FCC Rcd 19214, 19270-19271 ¶¶ 138-142 (1996).

⁸⁴³*Notice*, 12 FCC Rcd at 7844-7845, ¶¶ 21-23.

⁸⁴⁴47 U.S.C. § 613(g) (video description means the insertion of audio narrated descriptions of a television program's key visual elements into natural pauses between the program's dialogue).

⁸⁴⁵Providing video description through the SAP channel is also referred to as "closed description." Jaclyn Packer and Corinne Kirchner, *Who's Watching: A Profile of the Blind and Visually Impaired Audience for Television and Video* ("*Who's Watching*"), American Foundation for the Blind, 1997, at vii. This study analyzes the needs and

(continued...)

of a SAP channel allows the viewer to choose between the primary soundtrack and an alternative soundtrack.⁸⁴⁶ Each SAP-equipped broadcast signal has only one SAP channel.

260. Video description using the SAP channel is only one of several methods that can be used to make video programming more accessible to persons with visual disabilities. Other methods include simultaneous transmission of the descriptive audio over a radio reading service⁸⁴⁷ and "open" video description, in which the descriptions are included in the primary soundtrack used by all viewers.⁸⁴⁸

261. WGBH reports that 144 PBS member stations have SAP capability, reaching more than 78% of American households,⁸⁴⁹ and that SAP-based audio services are available to 44% of all television households through SAP-equipped affiliates of at least one of the major commercial networks.⁸⁵⁰ WGBH reports that the cost of installing SAP capability for PBS stations which have added SAP capability ranges from \$5000 to \$25,000 depending on the size of the station.⁸⁵¹ RP reports that installation of SAP equipment would cost approximately \$50,000 per broadcast station.⁸⁵² RP also notes that cable operators would need to install equipment for each channel requiring SAP capability.⁸⁵³ NCTA notes that while many cable operators already carry SAP signals, SAP is being used to provide other services, including Spanish language audio.⁸⁵⁴ Cable operators that did not already have it would need to install SAP capable equipment at their headends in order to transmit the SAP channel to subscribers.⁸⁵⁵ WGBH estimates that the cost for MVPDs to add SAP

⁸⁴⁵(...continued)

television viewing habits of persons with visual disabilities as well as their perceptions of television and video description. *Who's Watching* at v-vii.

⁸⁴⁶*Video Accessibility Report*, 11 FCC Rcd at 19253-19254 ¶ 94.

⁸⁴⁷ACB Comments Cover Letter.

⁸⁴⁸Kaleidoscope Comments at 6; *see also* National Coalition Comments at 15. Kaleidoscope estimates that its current programming, interstitials and commercials are 88% fully accessible and 12% partially accessible. Kaleidoscope Comments at 5. RP urges that future hardware be designed with persons with visual disabilities in mind, suggesting that all menus should "talk" and all access buttons for other audio channels be "brailled" or otherwise touch identifiable. RP Reply Comments at 3.

⁸⁴⁹WGBH Comments at 2; WGBH Reply Comments at 1.

⁸⁵⁰WGBH Reply Comments at 1.

⁸⁵¹WGBH Comments at 2.

⁸⁵²RP Comments at 7-8.

⁸⁵³*Id.* at 8; *see also* NCTA Comments at 48 (cable operators must incur costs to add SAP capability).

⁸⁵⁴NCTA Comments at 48.

⁸⁵⁵*Id.*

capability ranges from \$500 to \$5,000.⁸⁵⁶ Any programmer providing video description would also have to have SAP capable equipment to deliver the video description to cable headends and other MVPDs.⁸⁵⁷

262. According to the National Center for Health Statistics, 8.6 million persons in the U.S. have visual disabilities.⁸⁵⁸ Video description makes video services more accessible to these persons and allows the people with visual disabilities to more fully participate in the social and cultural benefits offered by video programming.⁸⁵⁹ ACB estimates that as many as 500,000 children with visual disabilities under the age of 18 may benefit from improved access to video service.⁸⁶⁰ Several commenters representing the people with visual disabilities assert that video description offers benefits beyond the visually disabled community, estimating that as many as 12 million people may benefit from video description, and that this figure may increase as the population ages.⁸⁶¹ However, MPAA suggests that video description is of limited utility regardless of the number of persons with visual disabilities, and that some people with congenital blindness find video description to be a nuisance.⁸⁶² Other commenters dispute this assertion, arguing that there is no evidence to support it and, even if true, video description can simply be turned off.⁸⁶³ RP argues that video description should not be subject to a cost-benefit analysis, asserting that such services are a civil right.⁸⁶⁴

263. We previously reported that video description costs range from \$1000 per program hour to \$10,000 for a full length feature film.⁸⁶⁵ NCTA states that the cost of video describing a full length feature

⁸⁵⁶WGBH Comments at 2.

⁸⁵⁷NCTA Comments at 48.

⁸⁵⁸*Video Accessibility Report*, 11 FCC Rcd at 19254 ¶ 96, citing National Center for Health Statistics, Current Estimates from the National Health Interview Survey, 1994, Series 10, No. 193, at 93, Table 62. Other estimates range between eight and 12 million persons. *Id.*

⁸⁵⁹*Who's Watching* at 23.

⁸⁶⁰ACB Comments at 3-4.

⁸⁶¹ACB Comments at 4 (persons with learning or cognitive disabilities may benefit from video description); RP Reply Comments at 2 (total number of potential beneficiaries approaches 30 million); Metropolitan Washington Ear Reply Comments at 4 (number of people with visual disabilities is closer to 12 million; millions more will benefit from video description, including relatives of the visually disabled, people learning English as a second language, and people with learning disabilities).

⁸⁶²MPAA Comments at 7.

⁸⁶³Metropolitan Washington Ear Reply Comments at 6; *see also* WGBH Reply Comments at 5. AFB also disputes the claim that video description is of limited utility, citing its own study of attitudes towards video description. *See* AFB Reply Comments at 2-3, citing *Who's Watching* at 23.

⁸⁶⁴RP Comments at 2.

⁸⁶⁵*Video Accessibility Report*, 11 FCC Rcd at 19258-19259 ¶¶ 106-109.

film can range as high as \$10,000.⁸⁶⁶ MPAA cites Turner Classic Movies' estimate of \$3,500 an hour, excluding the cost to synchronize and lay the video description onto the audio track, tape costs and edit room operator costs.⁸⁶⁷ WGBH states that the cost of video description has dropped from \$4,000 per hour to \$3,400 per hour,⁸⁶⁸ and that this cost amounts to as little as .26% of the budget of a single episode of a prime time program.⁸⁶⁹ Other commenters report that they have been able to produce accessible programming using in-house resources and alternative technologies. For example, Kaleidoscope asserts that the rates previously cited by the Commission are overstated due to reliance on outside contractors, noting that it is able to hold the cost of description down by in-house production.⁸⁷⁰ Kaleidoscope does not provide specific cost figures for video description noting that video description is incorporated into the production budget as part of the overall writing and editing figures, which it claims "do not amount to much more than a program without video description."⁸⁷¹ NTN states that it routinely provides video description for between \$1,000 and \$1,200 an hour, a cost that NTN claims is likely to be reduced through the use of digital technology.⁸⁷² The services provided by Kaleidoscope and NTN, however, use "open" video description.⁸⁷³

264. According to National Coalition, the market will not provide adequate incentives for video description, and increased availability of the service is dependent upon action by the Commission.⁸⁷⁴ Similarly, WGBH notes that while SAP-capable television receivers are increasingly available, the market has failed to respond with increased availability of video description as promised by the programming industry.⁸⁷⁵ According to WGBH, no commercial television programming has offered video description without public funding.⁸⁷⁶ WGBH also asserts that there are currently sufficient video description resources in existence to

⁸⁶⁶NCTA Comments at 47.

⁸⁶⁷MPAA Comments at 3.

⁸⁶⁸WGBH Comments at 2. *See also* RP Comments at 22 (cost of video description ranges from \$3,000 to \$5,000 per hour).

⁸⁶⁹WGBH Comments at 3. WGBH maintains that this small increase should be borne by broadcasters in return for their use of the public airways. *Id.*

⁸⁷⁰Kaleidoscope Comments at 6. NTN also maintains that estimates of the cost of video description have been dramatically overestimated. NTN Reply Comments at 1-2.

⁸⁷¹Kaleidoscope Comments at 5-6.

⁸⁷²NTN Reply Comments at 1-2. NTN notes that it has achieved this rate as a profitable, commercial tax-paying entity.

⁸⁷³Kaleidoscope Comments at 6; NTN Comments Attachment. Kaleidoscope also notes that "open" video description is significantly less complex and allows for additional savings in distribution.

⁸⁷⁴Metropolitan Washington Ear Reply Comments at 4.

⁸⁷⁵WGBH Reply Comments at 3.

⁸⁷⁶*Id.*

begin a phase-in schedule.⁸⁷⁷ RP asserts that video description represents a virtually untapped potential market for both video producers and equipment providers. RP claims that video description represents between \$5 billion and \$21 billion in potential revenue for the cable industry alone.⁸⁷⁸

265. In the *Video Accessibility Report*, the Commission found that any schedule for expanding the use of video description depends, in part, on implementation of advanced digital television, which may make the distribution of additional audio channels feasible and facilitate implementation of video description.⁸⁷⁹ Commenters recognize that, in the current analog environment, SAP channel capacity is a limited resource and video description must compete with other possible uses of the SAP channel.⁸⁸⁰ The video programming industry notes that it has developed a profitable niche market by providing second language audio to serve the Spanish-speaking community.⁸⁸¹ We previously concluded that funding will also affect any schedule for the widespread use of video description, as it appears that advertising support alone is unlikely to be sufficient to fund this service given the costs involved.⁸⁸² Funding remains a major concern. For example, MPAA notes that currently available sources of public funding for video description are becoming increasingly scarce.⁸⁸³ Other commenters suggest that public funding should not be the criteria for additional Commission action, because such funding was only intended to "prime the pump" by demonstrating the viability of the service and allowing a market to develop.⁸⁸⁴

266. With respect to specific methods and schedules for video description, National Coalition proposes a seven-year implementation schedule for video description of prime time and children's programming, comparing this phase in period to the eight years schedule for closed captioning of prime time television.⁸⁸⁵ National Coalition places special emphasis on describing prime time and children's programming. Under this proposal, broadcasters would be required to provide at least four hours of prime time video description per

⁸⁷⁷*Id.* at 4.

⁸⁷⁸RP Reply Comments at 2.

⁸⁷⁹*Video Accessibility Report*, 11 FCC Rcd at 19270 ¶ 139.

⁸⁸⁰*See, e.g.*, AFB Reply Comments at 3; Metropolitan Washington Ear Reply Comments at 4-5; HBO Reply Comments at 2.

⁸⁸¹*See, e.g.*, MPAA Comments at 3; HBO Reply Comments at 2.

⁸⁸²*Video Accessibility Report* at 19270 ¶ 140. We also reported that the primary source of funding for video description has been grants administered by PBS, National Endowment for the Arts, National Science Foundation and especially the Department of Education ("DOE") At the time of the *Video Accessibility Report*, DOE allocated \$1.5 million for video description, or about \$0.19 per American with visual disability. *Id.* at 19259 ¶ 110.

⁸⁸³MPAA Comments at 6. *See also* HBO Reply Comments at 7.

⁸⁸⁴*See, e.g.*, WGBH Comments at 3.

⁸⁸⁵National Coalition Comments at 10-11.

week beginning in the fall of 1998,⁸⁸⁶ and another three hours per week would be added each year until all 22 hours of prime time were described.⁸⁸⁷ National Coalition further proposes that within two years television broadcasters be required to provide video description for the three hours per week of children's educational programming required by the children's educational television programming requirements.⁸⁸⁸ National Coalition also recommends that the Commission defer establishing implementation schedules for other types of programming to allow for the development of video description resources and vendors. For instance, National Coalition recognizes the special demands of describing live events, including news and sports. National Coalition also recognizes that in some cases programming such as sporting events are simultaneously carried on radio which may function as an effective substitute for a video described audio track.⁸⁸⁹ In developing video description requirements for programming other than prime time and children's programming, National Coalition recommends the Commission reserve sufficient regulatory flexibility to accommodate programming whose nature or financing does not lend itself to video description.⁸⁹⁰ National Coalition also suggests that the Commission develop an undue burden exemption similar to that developed for closed captioning. It further recommends that the Commission require public safety announcements to include an aural tone to alert the blind to turn on a radio or use the SAP channel for an aural message.⁸⁹¹

267. In the *Video Accessibility Report*, the Commission noted that copyright liability poses a significant hurdle to a widely applicable video description requirement.⁸⁹² NCTA and other video programming industry commenters continue to cite potential copyright issues as an obstacle to more widespread deployment of video description.⁸⁹³ These commenters argue that video description requires the addition of original narration, thus creating a derivative work and copyright liability. Entities currently creating video description indicate that they have had no difficulty with copyright issues. WGBH, for example, claims that copyright holders have been quite willing to permit video description of their works because they continue to hold the copyright to the described version of the work, and the description adds value to the original work.⁸⁹⁴ Kaleidoscope provides video description for originally produced material or material already in the public

⁸⁸⁶*Id.* at 11.

⁸⁸⁷*Id.*

⁸⁸⁸*Id.* at 10-11. The children's educational programming requirements only apply to broadcast licensees. 47 C.F.R. § 73.661.

⁸⁸⁹*Id.* at 11.

⁸⁹⁰*Id.* at 12.

⁸⁹¹*Id.*

⁸⁹²*Video Accessibility Report*, 11 FCC Rcd at 19270-71 ¶ 141.

⁸⁹³NCTA Comments at 48; Lifetime Reply Comments at 7; MPAA Comments at 6-7. *See also* HBO Reply Comments at 6 (copyright liability posed by video description creates an additional expense that is difficult to predict and is largely ignored by advocates of video description).

⁸⁹⁴WGBH Comments at 3; WGBH Reply Comments at 4-5. *See also* National Coalition Comments at 13; AFB Comments at 5 (the desire to obtain carriage will resolve copyright disputes if the Commission were to mandate video description).

domain in order to avoid any potential copyright problems.⁸⁹⁵ Kaleidoscope also suggests that if the Commission adopts mandatory video description requirements, copyright liability could be waived for a video programming provider if the provider could demonstrate that it had made good faith efforts to obtain the rights to video describe a particular product.⁸⁹⁶

268. Based on the information received in response to this and earlier requests for information, it is certain that "closed" video description is feasible. The necessary technology exists, and, as noted by commenters, some video description is already being provided, both on cable and broadcast television.⁸⁹⁷ Many televisions are equipped with SAP capability, and the number continues to increase. With respect to digital television, we note that the provision of video description is entirely consistent with our regulations regarding digital television. As we previously stated, the DTV standard can accommodate video description, even though there is no data capacity reserved exclusively for video description.⁸⁹⁸ In that order, we found that the DTV standard provides a method of including video descriptions, and stated that, if, in the future, video description capability were to be required, we expect the Advanced Television Systems Committee ("ATSC") to consider appropriate changes to the ATSC DTV standard and that we would consider appropriate changes to our rules.⁸⁹⁹ In the digital environment, video description will not have to compete with foreign language audio for use of one SAP channel.

269. On the other hand, the costs of providing video description are substantial. Video description can cost \$3,400 per program hour.⁹⁰⁰ In addition, each programming network must have SAP capable equipment in order to deliver the video description. MVPDs may need to add SAP capability to the headend equipment for each channel used to provide video description, which may cost from \$500 to \$5,000.⁹⁰¹ A broadcaster wishing to produce programming that will have video description needs additional equipment. WGBH reports that for the public television stations which have added SAP capability, upgrading has cost between \$5,000 and \$25,000. The costs of providing video description are still quite high, significantly higher than those associated with closed captioning.

270. There is evidence that video description is a valuable addition to television programming for persons with visual disabilities and that it helps the viewer experience the totality of the programming. The research described in *Who's Watching* demonstrates that video description enables families to watch television together, and enhances their enjoyment. Continued public funding could foster the development of video

⁸⁹⁵Kaleidoscope Comments at 9.

⁸⁹⁶*Id.*

⁸⁹⁷*See, e.g.,* MPAA Comments at 2; NCTA Comments at 47; WGBH Comments at 1.

⁸⁹⁸*Fourth Report and Order*, 11 FCC Rcd at 17795 ¶ 58.

⁸⁹⁹*Id.* The audio system of the DTV standard allows data to be specifically identified as an associated audio service for persons with visual disabilities. In addition, the DTV standard allows a separate complete audio service that includes video description. *Id.*

⁹⁰⁰WGBH Comments at 2.

⁹⁰¹*Id.*

description services to the point where widespread implementation of video description could become feasible, and could ultimately create a commercial market for video description independent of public funding. Closed captioning has been in existence longer than video description, and has had the benefit of a long history of government support, which has encouraged its growth and widespread implementation. The advances of the digital age, combined with continued federal funding, could allow the development and expansion of video description to occur more quickly than occurred in the case of closed captioning.

271. In response to Congress' request that we report on appropriate methods and schedules for phasing video descriptions into the marketplace,⁹⁰² any requirements for video description should begin with only the largest broadcast stations and programming networks that are better able to bear the costs involved. The appropriate timeframe for any requirements might take into account DTV penetration and availability. For example, a minimal amount of video description could be required to be provided by the larger broadcast stations in the larger markets, and by the larger video programming networks. In any event, any requirement should have an exemption for smaller broadcasters, MVPDs, and programming networks. With respect to Congress' request for a definition of programming for which video descriptions would apply,⁹⁰³ we believe that priority should be given to programming where there is significant action not apparent to persons with visual disabilities. We note that National Coalition recommends beginning with prime time television and also emphasizes video description for children's educational programming.⁹⁰⁴ In *Who's Watching*, survey results showed that dramas or mysteries, nature or science, news and information, comedies, and music programs or videos topped the lists of television programs that respondents would like to have described.⁹⁰⁵ Whether funded through public sources or through a more direct regulatory requirement, a period of trial and experimentation would be beneficial so that more specific information would be available as to the types of programming that would most benefit from description, the costs of providing video descriptions, and other matters.

VII. ADMINISTRATIVE MATTERS

272. This *1997 Report* is issued pursuant to authority contained in Sections 4(i), 4(j), 403, and 628(g) of the Communications Act of 1934, as amended, 47 U.S.C. § 154(i), 154(j), 403, and 548(g).

273. It is ORDERED that the Office of Legislative and Intergovernmental Affairs shall send copies of this *1997 Report* to the appropriate committees and subcommittees of the United States House of Representatives and the United States Senate.

274. It is FURTHER ORDERED that the proceeding in CS Docket No. 97-141 IS TERMINATED.

⁹⁰²47 U.S.C. § 613(f).

⁹⁰³*Id.*

⁹⁰⁴We note that some programming services, most notably smaller cable programming networks, have very limited viewership, even during prime time. We also note that the children's programming requirements only apply to broadcast licensees.

⁹⁰⁵*Who's Watching* at 26.

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas
Secretary

APPENDIX A**List of Commenters****Comments**

Alliance for Community Media ("Alliance")
American Council of the Blind ("ACB")
Ameritech New Media, Inc. ("Ameritech")
American Public Power Association ("APPA")
Bell Atlantic and NYNEX ("Bell Atlantic")
BellSouth Corporation, BellSouth Interactive Media Services, Inc. and BellSouth Wireless Cable, Inc.
("BellSouth")
Cablevision Systems Corporation ("Cablevision")
Clay Electric Cooperative, Inc. ("Clay Electric")
DIRECTV, Inc. ("DIRECTV")
Echostar Communications Corporation ("Echostar")
Florida Electric Cooperatives Association, Inc. ("Florida Electric")
General Instrument Corporation ("GI")
Home Box Office ("HBO")
Independent Cable & Telecommunications Association ("ICTA")
Jackson Electric Membership Corporation ("Jackson Electric")
Kaleidoscope Television ("Kaleidoscope")
Little Ocmulgee Electric Membership Corporation ("Little Ocmulgee")
Minnesota Rural Electric Association ("Minnesota Electric")
Montana Electric Cooperatives' Association ("Montana Electric")
Motion Picture Association of America, Inc. ("MPAA")
National Cable Television Association ("NCTA")
National Coalition of Blind and Visually Impaired Persons for Increased Video Access . ("National
Coalition")
National Rural Electric Cooperative Association ("NRECA")
National Rural Telecommunications Cooperative ("NRTC")
Nebraska Rural Electric Association ("NREA")
North Carolina Cable Telecommunications Association ("NCCTA")
OpTel, Inc. ("Optel")
Primetime 24 Joint Venture ("Primetime24")
RP International & TheatreVision ("RP")
Satellite Broadcasting and Communications Association of America ("SBCA")
Small Cable Business Association ("SCBA")
United States Telephone Association ("USTA")
US WEST, INC. ("US West")
UTC (formerly Utilities Telecommunications Council)
WECA Division of the Wisconsin Federation of Cooperatives ("WECA")
WGBH Educational Foundation ("WGBH")
Wireless Cable Association International, Inc. ("WCAI")

Reply Comments

American Foundation for the Blind ("AFB")
American Public Power Association ("APPA")
Ameritech New Media, Inc. ("Ameritech")
Bell Atlantic and NYNEX ("Bell Atlantic")
BellSouth Corporation, BellSouth Interactive Media Services, Inc. and BellSouth Wireless Cable, Inc.
("BellSouth")
CBS Inc. ("CBS")
Echostar Communications Corporation ("Echostar")
ESPN, Inc. ("ESPN")
GTE Service Corporation ("GTE")
Home Box Office ("HBO")
Lifetime Television ("Lifetime")
Metropolitan Washington Ear, The National Television Access Coalition ("Metropolitan Washington
Ear")
Narrative Television Network ("NTN")
National Association of Broadcasters ("NAB")
National Cable Television Association ("NCTA")
National Rural Electric Cooperative Association ("NRECA")
National Rural Telecommunications Cooperative ("NRTC")
Network Affiliated Stations Alliance ("NASA")
Rainbow Media Holdings, Inc. ("Rainbow")
RCN Telecom Services, Inc. ("RCN")
RP International & TheatreVision ("RP")
Small Cable Business Association ("SCBA")
United States Telephone Association ("USTA")
US WEST, INC. ("US West")
UTC (formerly Utilities Telecommunications Council)
Viacom Inc. ("Viacom")
WGBH Educational Foundation ("WGBH")
Wireless Cable Association International, Inc ("WCAI")

APPENDIX B

TABLE B-1
Cable Television Industry Growth: 1990 - June 1997
 (in millions)

Year	U.S. Television Households ("TH")		Homes Passed ("HP")		Basic Cable Subscribers ("Subs")		TV Households Passed by Cable (HP/TH)	TV Households Subscribing (Subs/TH)	U.S. Penetration (Subs/HP)
	Total	Change From Previous Year	Total	Change From Previous Year	Total	Change From Previous Year			
1990	93.1	1.1%	86.0	3.9%	51.7	4.9%	92.4%	55.5%	60.1%
1991	92.1 (*)	-1.1%	88.4	2.8%	53.4	3.3%	96.0%	58.0%	60.4%
1992	93.1	1.1%	89.7	1.5%	55.2	3.4%	96.3%	59.3%	61.5%
1993	94.2	1.2%	90.6	1.0%	57.2	3.6%	96.2%	60.7%	63.1%
1994	95.4	1.3%	91.6	1.1%	59.7	4.4%	96.0%	62.6%	65.2%
1995	95.9	0.5%	92.7	1.2%	62.1	4.0%	96.7%	64.8%	67.0%
1996	97.0	1.1%	93.7	1.1%	63.5	2.3%	96.6%	65.5%	67.8%
Jan-Jun 97(e)	97.0	0.0%	94.2	0.5%	64.2	1.1%	97.1%	66.2%	68.2%

(*) Revised penetration figure based on 1990 Census.

(e) Estimated by Paul Kagan Associates.

Sources:

- ! **U.S. Television Households: 1990 to 1994** - A.C. Nielsen Co. as of January of the following year. Taken from Veronis, Suhler & Associates, *Subscribers to Subscription Video Services*, The Veronis, Suhler & Associates Communications Industry Forecast, August 1996, at 128. **1995** - Paul Kagan Assoc., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections*, The Cable TV Financial Databook, 1996, at 11. **1995 Revised** - Paul Kagan Assoc., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections*, Cable TV Investor, May, 1997, at 9. **1996** - Nielsen Media Research as cited by Broadcasting & Cable, Jan. 13, 1997 at 118. **1997** - Nielsen Media Research as cited in *The TV Column*, Washington Post, Aug. 26, 1997 at E4.
- ! **Homes Passed and Basic Cable Subscribers: 1990 to 1994** - Paul Kagan Assoc., Inc., *History of Cable and Pay-TV Subscribers and Revenues*, Cable TV Investor, June 30, 1995, at 5; **1995 to 1997** - Paul Kagan Assoc., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections*, Cable TV Investor, May, 1997, at 9.

TABLE B-2
Premium Cable Services: 1990 - 1997
(in millions)

Year-end	Premium Cable Service Subscribers		Premium Units	
	Year-end Total	Change From Previous Year	Year-end Total	Change From Previous Year
1990	23.9	1.3%	41.5	1.0%
1991	24.0	0.4%	43.1	3.9%
1992	24.7	2.9%	44.4	3.0%
1993	26.4	6.9%	46.0	3.6%
1994	28.1	6.4%	51.1	11.1%
1995	29.8	6.0%	51.6 (*)	1.0%
1996	31.5	5.7%	54.5	5.6%
1997	N/A	-	57.2 (e)	5.0%

(*) Revised Data - updated by the source.

(e) Year-end estimated as of May 20, 1997, by Paul Kagan Associates.

Sources:

- ! Premium Cable Service Subscribers: 1990 to 1994 - Paul Kagan Assoc., Inc., *History of Cable and Pay-TV Subscribers and Revenues*, Cable TV Investor, June 30, 1995, at 5. **1995 to 1996** - Paul Kagan Assoc., *History of Cable and Pay-TV Subscribers and Revenues*, Cable TV Investor, Feb. 24, 1997, at 10.
- ! Premium Units: Premium Units refers to the number of premium services subscribed to by a home, whereas Premium Cable Services Subscribers refers to the total number of homes subscribing to one or more premium services. **1990 to 1995** - Paul Kagan Assoc., Inc., *Pay TV Subscriber History*, The Cable TV Financial Databook, July 1996, at 8. **1996 to 1997** - Paul Kagan Assoc., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections*, Cable TV Investor, May, 1997, at 9.

TABLE B-3
Channel Capacity of Cable Systems: October 1995 - October 1997

Channel Capacity	1995(*)		1996(*)		95-96 Percent Change	1997(*)		96-97 Percent Change
	Number of Systems	Percent of Systems	Number of Systems	Percent of Systems		Number of Systems	Percent of Systems	
54 and +	1,558	15.6%	1,724	16.4%	10.7%	1,886	19.0%	9.4%
30 to 53	6,376	63.8%	6,410	60.8%	0.5%	6,374	64.1%	-0.6%
20 to 29	1,104	11.0%	1,607	15.3%	45.6%	971	9.8%	-39.6%
13 to 19	353	3.5%	337	3.2%	-4.5%	309	3.1%	-8.3%
6 to 12	588	5.9%	456	4.3%	-22.4%	399	4.0%	-12.5%
5 or less	14	0.1%	12	0.1%	-14.3%	10	0.1%	-16.7%
Not Avail.	1,133	-	937	-	-17.3%	889	-	-5.1%
Total	11,126	-	11,483	-	3.2%	10,838	-	-5.6%
Sys. w/30+ channels	7,934	79.4%	8,134	77.1%	2.5%	8,260	83.9%	1.5%
Sys. w/less than 30 channels	2,059	20.6%	2,412	22.9%	17.1%	1,689	17.0%	-30.0%

(*) Figures are as of October 1st, 1995/1996/1997. "Percentage of Systems" calculation excludes "not available" data.

Sources:

- ! **1995** - Warren Publishing, Inc., *Channel Capacity of Existing Cable Systems*, Television & Cable Factbook: Services Volume No. 64, 1996 Edition, at I-81.
- ! **1996** - Warren Publishing, Inc., *Channel Capacity of Existing Cable Systems*, Television & Cable Factbook: Services Volume No. 65, 1997 Edition, at I-81.
- ! **1997** - Warren Publishing, Inc., *Channel Capacity of Existing Cable Systems*, Television & Cable Factbook: Services Volume No. 66, 1998 Edition. (to be released).

TABLE B-4
Channel Capacity for Subscribers: October 1995 - October 1997
(in millions)

Channel Capacity	1995(*)		1996(*)		95-96	1997(*)		96-97
	Number of Subscribers	Percent of Subscribers	Number of Subscribers	Percent of Subscribers	Percent Change	Number of Subscribers	Percent of Subscribers	Percent Change
54 and +	27.69	47.9%	33.58	55.3%	21.3%	35.73	58.4%	6.4%
30 to 53	28.56	49.4%	26.06	42.9%	-8.8%	24.35	39.8%	-6.6%
20 to 29	1.20	2.1%	0.81	1.3%	-32.5%	0.85	1.4%	4.9%
13 to 19	0.13	0.2%	0.10	0.2%	-23.1%	0.09	0.1%	-10.0%
6 to 12	0.22	0.4%	0.19	0.3%	-13.6%	0.19	0.3%	0.0%
5 or less	0.00	0.0%	0.00	0.0%	0.0%	0.00	0.0%	0.0%
Not Avail.	1.50	-	0.09	-	-36.0%	1.22	-	27.1%
Total	59.30	-	61.7	-	4.0%	62.43	-	1.2%
Sys. w/30+ channels	56.3	97.3%	59.6	98.2%	6.0%	60.1	98.2%	0.7%
Sys. w/less than 30	1.6	2.7%	1.1	1.8%	-29.0%	1.13	1.8%	2.7%

(*) Figures are as of October 1st, 1995/1996/1997. "Percentage of Systems" calculation excludes "not available" data.

Sources:

- ! **1995** - Warren Publishing, Inc., *Channel Capacity of Existing Cable Systems*, Television & Cable Factbook: Services Volume No. 64, 1996 Edition, at I-81.
- ! **1996** - Warren Publishing, Inc., *Channel Capacity of Existing Cable Systems*, Television & Cable Factbook: Services Volume No. 65, 1997 Edition, at I-81.
- ! **1997** - Warren Publishing, Inc., *Channel Capacity of Existing Cable Systems*, Television & Cable Factbook: Services Volume No. 66, 1998 Edition. (to be released).

TABLE B-5
Growth By Network Type: 1994 - 1996

Network Type	1994		1995		94-95 Change	1996		95-96 Change
	Number of Networks	Percent of Networks	Number of Networks	Percent of Networks		Number of Networks	Percent of Networks	
Basic/No-Chrg	94	73.4%	104(*)	74.8%	10.6 ^(*)	126	77.8%	21.2%
Premium	20	15.6%	21	15.1%	5.0%	18	11.1%	-14.3%
Pay Per View	8	6.3%	8	5.8%	0.0%	7	4.3%	-12.5%
Combination	6	4.7%	6	4.3%	0.0%	11	6.8%	83.3%
Total	128		139		8.6% ^(*)	162		16.5%

(*) Revised Data - updated by the source.

Source:

! **1994 - 1996:** National Cable Television Association, *National Cable Video Networks By Type of Service: 1976 - 1996*, Cable Television Developments, Spring 1997, at 6.

TABLE B-6
Cable Industry Revenue and Cash Flow^(*): 1993 - 1997

	1993	1994		1995(**)		1996		1997
	Total	Total	% Change From Previous Year	Total	% Change From Previous Year	Total	% Change From Previous Year	Estimated Year-End Total
Average Number of Basic Subscribers (mil.)	56.2	58.5	4.1%	60.9	4.1%	62.8	3.1%	64.1
Revenue Segments (mil.)	\$15,169	\$15,164	0.0%	\$16,860	11.2%	\$18,395	9.1%	\$20,008
Regulated Tiers	\$4,625	\$4,522	-2.2%	\$4,775	5.6%	\$4,966	4.0%	\$5,153
Pay Tiers	\$984	\$1,077	9.5%	\$1,433	33.1%	\$1,662	16.0%	\$1,912
Advertising	\$452	\$484	7.1%	\$535	10.5%	\$647	20.9%	\$815
Pay-Per-View	\$113	\$127	12.4%	\$144	13.4%	\$145	0.7%	\$152
Home Shopping	\$1,123	\$1,412	25.7%	\$1,151	-18.5%	\$1,305	13.4%	\$1,774
Miscellaneous+Installations	\$22,466	\$22,786	1.4%	\$24,898	9.3%	\$27,120	8.9%	\$29,814
Total Revenue (mil.)	\$399.75	\$389.50	-2.6%	\$408.83	5.0%	\$431.85	5.6%	\$465.12
Revenue Per Avg. Sub	\$10,100	\$9,936	-1.6%	\$11,161	12.3%	\$12,177	9.1%	N/A
Cash Flow (mil.)	\$179.72	\$169.85	-5.5%	\$183.27	7.9%	\$193.90	5.8%	-
Cash Flow per Sub	45.0%	43.6%	-3.1%	44.8%	2.8%	44.9%	0.2%	N/A
Cash Flow/Total Revenue								

Note: All figures are calculated using average number of subscribers (first row).

(*) Earnings Before Interest, Taxes, Depreciation, and Amortization ("EBITDA"), commonly referred to as "cash flow from operations" is often used to value the operations of a communications firm without regard to the firm's capital structure. Cash flow from operations is the net result of cash inflows from operations (revenue) and cash outflows from operations (expenses), thus ignoring non-cash charges to net income such as depreciation and amortization. Cash flow from operations indicates a firm's operation's ability to meet the firm's net finance and investment obligations.

(**) Revised Data - updated by the source

Sources:

- ! **1993 and 1994** - Paul Kagan Assoc., Inc., *History of Cable and Pay-TV Subscribers and Revenues*, Cable TV Investor, June 30, 1995, at 5 and Paul Kagan Assoc., Inc., *Estimated Capital Flows In Cable TV*, The Cable TV Financial Databook, July 1995, at 92.
- ! **1995 to 1997** - Paul Kagan Assoc., Inc., *Paul Kagan's 10-Year Cable TV Industry Projections*, Cable TV Investor, May 20, 1997, at 9; Paul Kagan Assoc., Inc., "Cable TV's Growth Chart," Cable TV Investor, March 27, 1997 at 4.

TABLES 7A & 7B
Annual Cable Industry Revenue, Cash Flow, and Subscriber Information
Year-end 1995 - Year-end 1996

The following tables detail the data and the calculations used in the Commission's estimates of the cable industry's annual revenue and cash flow.

To calculate the industry-wide estimates of revenue, we first calculate an average revenue per subscriber figure for each year by dividing the total revenue of the companies in the group by the average subscribers of these companies for that year. Second, we multiply this average revenue per subscriber figure by an estimate of the industry's average subscribership for the year. The same methodology was followed to calculate the industry-wide estimates of cash flow.

The estimates in this *1997 Report* differ from those in the *1996 Report* because secondary sources were used in many cases to obtain data, and only the firms with subscribership of 500,000 or more were analyzed.

Sources:

- ! 1995: Unless otherwise noted, the data used in these tables are from the companies' public filings with the Securities and Exchange Commission, their press releases, or discussions with company personnel. Some of the data taken from these sources have been adjusted to take into account acquisitions which occurred during each year. These adjustments are described in the notes for each table. Due to lack of data, adjustments have not been made for all acquisitions.
- ! 1996: Data collected from numerous sources. See footnotes.
- ! The year-end industry subscriber estimates for 1995 and 1996 were taken from Table B-1 of this Appendix.

General Notes:

- ! Unless otherwise noted, all "Year-End Subscribers" numbers are as of December 31 of the year in question. All "Average Subscribers," "Cable Revenue," and "Cable Cash Flow" numbers are for the fiscal year ending December 31 of the year in question.
- ! Unless otherwise noted, all data are for the companies' consolidated, domestic cable operations. Some data have been adjusted to remove subscribers, revenue, and cash flow from other sources (e.g. satellite operations.)
- ! Each company's "Average Subscribers" figure is from one of the three following sources: a company reported figure, an average of quarterly subscribership information, or the mid-point of two year-end subscriber numbers.

- ! In each of the tables, the company referred to as “Enstar Partnerships” represents the combined results of ten separate partnerships associated with Falcon Holding Group. The partnerships are: Enstar Income Growth Program Five-A, Enstar Income Growth Program Five-B, Enstar Income Growth Program Six-A, Enstar Income Growth Program Six-B, Enstar Income Program 1984-1, Enstar Income Program II-1, Enstar Income Program II-2, Enstar IV-1, Enstar IV-2, Enstar IV-3.

- ! In each of the tables, the company referred to as “Jones Partnerships” represents the combined results of 21 separate partnerships associated with Jones Intercable. The partnerships are: Cable TV Fund 11-A Ltd, Cable TV Fund 11-B Ltd, Cable TV Fund 11-C Ltd, Cable TV Fund 11-D Ltd, Cable TV Fund 12-A Ltd, Cable TV Fund 12-B Ltd, Cable TV Fund 12-C Ltd, Cable TV Fund 12-D Ltd, Cable TV Fund 14-A Ltd, Cable TV Fund 14-B Ltd, Cable TV Fund 15-A Ltd, IDS/Jones Growth Partners 87-A Ltd, IDS/Jones Growth Partners 89-B Ltd, IDS/Jones Growth Partners II LP, Jones Cable Income Fund 1-A Ltd, Jones Cable Income Fund 1-B Ltd, Jones Cable Income Fund 1-C Ltd, Jones Growth Partners LP, Jones Growth Partners II LP, Jones Intercable Investors LP, Jones Spacelink Income Growth Fund 1-A.

- ! In the table for 1995, the company referred to as “Northland Partnerships” represents the combined results of 5 separate partnerships associated with Northland Communications Corporation. The partnerships are: Northland Cable Properties Four LTD Partnership, Northland Cable Properties Five LTD Partnership, Northland Cable Properties Six LTD Partnership, Northland Cable Properties Seven LTD Partnership, and Northland Cable Properties Eight LTD Partnership.

TABLE 7A
1995 Cable Industry Revenue and Cash Flow Calculations

Company	Year-End Subscribers	Average Subscribers	Annual Cable Revenue (mil.)	Monthly Cable Revenue Per Subscriber	Annual Cable Cash Flow (mil.)	Annual Cable Cash Flow Per Subscriber	Average Cash Flow Margin
TCI Communications, Inc.	12,494,000	12,183,000	\$4,936.000	\$33.76	\$2,081.800	\$170.88	42.2%
Time Warner	9,769,000	9,545,500	\$3,743.440	\$32.68	\$1,549.000	\$162.28	41.4%
Continental Cablevision	4,066,795	4,002,805	\$1,695.263	\$35.29	\$705.272	\$176.19	41.6%
Comcast	3,407,000	3,357,000	\$1,454.932	\$36.12	\$718.455	\$214.02	49.4%
Cox Communications	3,248,759	3,215,878	\$1,287.016	\$33.35	\$510.998	\$158.90	39.7%
Cablevision Systems	2,061,200	1,904,425	\$905.155	\$39.61	\$392.416	\$206.05	43.4%
Viacom	1,179,500	1,165,000	\$444.400	\$31.79	\$182.900	\$157.00	41.2%
Marcus Cable	1,154,718	1,110,352	\$325.414	\$24.42	\$173.597	\$156.34	53.3%
Century Communications	1,100,000	1,046,000	\$349.641	\$27.86	\$177.210	\$169.42	50.7%
Cablevision Industries	1,041,768	1,028,942	\$423.212	\$34.28	\$203.133	\$197.42	48.0%
Adelphia Communications	1,002,760	993,284	\$390.413	\$32.75	\$204.145	\$205.53	52.3%
Jones Partnerships	902,345	904,834	\$391.772	\$36.08	\$122.852	\$135.77	31.4%
EW Scripps	766,400	756,850	\$279.482	\$30.77	\$118.074	\$156.01	42.2%
Lenfest Communications	596,366	586,872	\$232.155	\$32.97	\$115.361	\$196.57	49.7%
TCA Cable TV, Inc.	574,473	529,512	\$200.867	\$31.61	\$99.982	\$188.82	49.8%
Intermedia Partners IV	554,000	539,100	\$211.800	\$32.74	\$87.000	\$161.38	41.1%
Media One (US West)	527,000	513,500	\$215.000	\$34.89	\$100.000	\$194.74	46.5%
Washington Post Co.	518,000	508,000	\$194.142	\$31.85	\$81.988	\$161.39	42.2%
Multimedia Inc (Gannett)	458,000	452,250	\$174.941	\$32.24	\$89.703	\$198.35	51.3%
Jones Intercable, Inc.	439,400	374,350	\$135.350	\$30.13	\$49.428	\$132.04	36.5%
Falcon Holding Group	419,288	379,985	\$142.608	\$31.27	\$95.442	\$251.17	66.9%
C TEC Corp	333,920	286,061	\$127.079	\$37.02	\$57.858	\$202.26	45.5%
Charter Comm. SE, LP	249,106	245,615	\$88.624	\$30.07	\$42.842	\$174.43	48.3%
Bresnan Communications	209,459	206,048	\$70.389	\$28.47	\$28.555	\$138.58	40.6%
Garden State Cablevision	200,086	198,026	\$92.815	\$39.06	\$51.176	\$258.43	55.1%
Insight Communications	163,923	159,293	\$57.108	\$29.88	\$28.115	\$176.50	49.2%
Galaxy Telecom	162,400	161,663	\$57.459	\$29.62	\$22.800	\$141.03	39.7%
Falcon Cable Systems	135,475	134,362	\$52.935	\$32.83	\$23.915	\$177.99	45.2%
Rifkin Acquisition Partners	132,271	128,165	\$50.208	\$32.65	\$23.429	\$182.80	46.7%
Northland Partnerships	102,766	99,061	\$35.181	\$29.60	\$14.579	\$147.17	41.4%
Helicon Group	87,632	86,615	\$35.225	\$33.89	\$17.141	\$197.90	48.7%
Enstar Partnerships	85,342	84,780	\$31.405	\$30.87	\$13.022	\$153.60	41.5%
Falcon Classic Cable	47,957	47,435	\$18.363	\$32.26	\$8.263	\$174.20	45.0%
Cencom Inc. Cab. Prtnrs II	44,500	43,750	\$17.046	\$32.47	\$7.245	\$165.59	42.5%
Mercom, Inc.	38,853	38,089	\$13.939	\$30.50	\$5.191	\$136.29	37.2%
Total For Group	48,274,462	47,016,397	\$18,880.779	\$33.46	\$8,202.886	\$174.47	43.4%
Total For Industry	62,100,000	60,900,000	\$24,456.137	\$33.46	\$10,625.139	\$174.47	43.4%
Percent Change From Previous Year	4.02%	4.19%	5.97%	1.71%	5.75%	1.50%	-0.21%

1995 Notes:**- TCI -**

On January 26, 1995, TCI acquired Telecable. TCI's results have been adjusted as though the transaction took place on January 1, 1995. This increased TCI's revenue by \$25 million and its cash flow by \$10.8 million (calculated by applying Telecable's 1994 cash flow margin to the \$25 million.) TCI's average subscribership was calculated assuming that this acquisition occurred at the beginning of the year.

TCI's revenue and cash flow were adjusted for the removal of its satellite operations. This reduced its revenue by \$207 million and its cash flow by \$10 million. TCI's cash flow was increased by \$38 million to account for special strategic initiatives and a customer retention program.

- Time Warner -

During 1995, Time Warner (TW) completed four acquisitions. TW's revenue, cash flow, and average subscribers were all adjusted as though these acquisitions had taken place at the beginning of the year. On April 1, 1995, TW entered into a partnership with Advance/Newhouse which had 1.5 million subscribers at the time of the deal. This added \$137 million to TW's 1995 revenue and \$46 million to its 1995 cash flow. On May 2, 1995, TW acquired Summit Communications which had 165,000 subscribers at the end of 1994. This added \$22 million to TW's 1995 revenue and \$11 million to its cash flow. On July 6, 1995, TW acquired KBLCOM, a subsidiary of Houston Industries Inc., which had 690,000 subscribers at the end of 1994. This added \$139 million to TW's 1995 revenue and \$72 million to its cash flow. On July 6, 1995, TW acquired from Houston Industries the half of Paragon Communications which TW did not already own, which had 967,000 subscribers at the end of 1994. This added \$179 million to TW's 1995 revenue and \$45 million to its cash flow.

- Continental -

On October 5, 1995, Continental acquired the cable holdings of the Providence Journal Company. In addition, Continental made several other smaller acquisitions during the year (Cablevision of Chicago, Columbia Cable of Michigan, Consolidated Cablevision of California, and N-COM). Continental's data have been adjusted as though these transactions took place at the beginning of the year. This increased Continental's revenue by \$289.919 million (\$221.998 million for Providence and \$67.921 million for the other acquisitions) and its cash flow by \$104.421 million (\$79.107 million for Providence and \$25.314 million for the other acquisitions.) Continental's average subscribership was calculated assuming that these acquisitions had occurred at the beginning of the year. This increased Continental's 1994 year-end subscriber number by 1,000,265 (771,000 for Providence and 229,265 for the other acquisitions.)

When Continental reports its basic subscribership, it includes, on an equity basis, subscribers from its partially owned affiliates. Those subscribers were removed from the 1995 year-end subscriber number (123,364). Therefore, the 1994 average subscribers number has been adjusted as well.

Continental's revenue and cash flow were adjusted for the removal of its satellite operations. This reduced its revenue by \$37.048 million and its cash flow by \$4.3 million.

- Cox -

On February 1, 1995, Cox acquired Times Mirror's cable holdings. Cox's results have been adjusted as though this transaction took place at the beginning of the year. Cox's revenue and cash flow assume the acquisition had occurred at the beginning of the year. Cox's average subscriber number was calculated assuming that it had controlled the Times Mirror subscribers for the entire year.

Cox's revenue and cash flow were adjusted for the removal of its satellite operations. This reduced its revenue by \$41.084 million and increased its cash flow by \$0.598 million.

- Marcus -

On January 1, 1995, Marcus acquired cable systems from Crown Media, Inc., which added 193,300 subscribers to its 1994 year-end subscriber figure. On November 1, 1995, Marcus acquired cable systems from Sammons Communications, Inc. Marcus' results have been adjusted as though this transaction took place at the beginning of the year. Marcus' revenue was increased by \$129.32 million (\$116.388 million for the first nine months of the year plus one-ninth of that number for October) and its cash flow was increased by \$77.327 million (\$69.594 million for the first nine months of the year plus one-ninth of that number for October.) Marcus' year-end 1994 subscriber figure was increased by 650,000 subscribers (the subscribership of the acquired systems on March 30, 1995).

- Century -

Revenue and cash flow data are for the 12 months ending November 30, 1995. Its year-end subscriber number is as of May 31, 1995.

- Adelpia -

Adelpia's average subscribers, revenue, and cash flow are for the 12 months ending December 31, 1995. Its year-end subscriber number is as of that date.

- TCA -

TCA's average subscribers, revenue, and cash flow are for the 12 months ending January 31, 1996. Its year-end subscriber number is as of that date.

TABLE 7B
1996 Cable Industry Revenue and Cash Flow Calculations

Company	Year-End Subscribers	Average Subscribers	Annual Cable Revenue (mil.)	Monthly Cable Revenue Per Subscriber	Annual Cable Cash Flow (mil.)	Annual Cable Cash Flow Per Subscriber	Average Cash Flow Margin
TCI Communications ⁽¹⁾	13,900,000	13,197,000	\$5,860.00	\$37.00	\$2,230.00	\$168.98	38.1%
Time Warner ⁽²⁾	12,300,000	11,034,500	\$4,760.00	\$35.94	\$2,012.00	\$182.33	42.3%
US West (Media One) ⁽²⁾	4,354,287	4,210,541	\$1,051.19	\$20.81	\$1,473.00	\$349.84	40.1%
Comcast ⁽¹⁾	4,280,000	3,843,500	\$1,914.00	\$41.49	\$919.00	\$239.10	48.0%
Cox Communications ⁽¹⁾	3,259,384	3,254,072	\$1,460.00	\$37.38	\$556.90	\$171.14	38.1%
Cablevision Systems ⁽¹⁾	2,445,000	2,253,100	\$1,096.63	\$40.56	\$448.00	\$198.84	40.9%
Adelphia Commctns ⁽¹⁾	1,824,000	1,413,380	\$473.00	\$27.87	\$242.00	\$171.22	51.2%
Marcus Cable ⁽¹⁾	1,275,000	1,214,859	\$435.00	\$29.84	\$204.00	\$167.92	46.9%
Century Communications ⁽¹⁾	1,250,000	1,175,000	\$457.00	\$32.41	\$253.00	\$215.319	55.4%
Lenfest Group ⁽²⁾	1,110,703	853,535	\$354.56	\$34.61	\$182.91	\$214.28	51.6%
Falcon Cable TV ⁽²⁾	1,017,000	1,079,041	\$217.32	\$16.78	\$120.14	\$111.34	55.3%
TCA Cable TV, Inc. ⁽¹⁾	627,000	600,736	\$253.31	\$35.14	\$120.00	\$199.75	47.4%
InterMedia Partners ⁽²⁾	573,655	563,828	\$106.42	\$15.73	\$48.49	\$86.00	45.6%
Post-Newsweek Cable ⁽¹⁾	588,000	553,000	\$230.00	\$34.66	\$98.00	\$177.22	42.6%
Jones Intercable ⁽²⁾	585,000	512,200	\$248.63	\$40.45	\$100.50	\$196.21	40.4%
Total For Group	49,089,029	45,608,293	\$18,917.060	\$32.05	\$9,007.938	\$189.97	47.6%
Total For Industry	63,500,000	62,800,000	\$26,044.416	\$34.56	\$12,403.628	\$197.51	47.6%
Percent Change From Previous Year	4.02%	3.03%	6.51%	3.18%	9.33%	11.67%	8.82%

(1) Paul Kagan Assoc., *Cable TV Investor*, December, 1996 - May, 1997.

(2) Information derived from company 10-K or direct correspondence with the company.

1996 Notes:**- Adelfphia -**

Fiscal year-end March 31, 1997.

- Century -

Fiscal year-end May 31, 1997.

- Comcast -

Comcast acquired Scripps on November 1, 1996. Comcast numbers are pro forma Scripps acquisition.

- Continental -

When Continental reports its basic subscribership, it includes, on an equity basis, subscribers from its partially owned affiliates. Those subscribers were removed from the 1995 year-end subscriber number (123,364). Therefore, the 1996 average subscribers number has been adjusted as well.

Continental's revenue and cash flow were adjusted for the removal of its satellite operations. This reduced its revenue.

- Falcon Cable TV -

The Partnership reports subscribers for the Systems on an equivalent subscriber basis and, unless otherwise indicated, the term "SUBSCRIBERS" means equivalent subscribers, calculated by dividing aggregate basic service revenues by the average basic service rate within an operating entity. Consistent with past practices, subscribers is an analytically derived number which is reported in order to provide a basis of comparison to previously reported data. The computation of subscribers has been impacted by change in service offerings made in response to the 1992 Cable Act.

On July 12, 1996, the Partnership acquired the assets of Falcon Cable Systems Company ("FCSC") and, as a result, the systems of FCSC became owned systems; previously they were reported as Affiliated Systems. As a result, comparisons of 1996 to prior years must take this change into account. At December 31, 1996, the FCSC systems had approximately 239,431 homes passed, 135,550 homes subscribing to cable service, 44,199 premium service units and 170,561 Subscribers. At December 31, 1995 and 1994, the corresponding totals for the FCSC systems were 233,304 and 228,522 homes passed, 135,475 and 133,249 homes subscribing to cable service, 52,694 and 59,732 premium service units and 219,269 and 193,008 subscribers, respectively.

- TCA Cable -

TCA's average subscribers, revenue, and cash flow are for the 12 months ending January 31, 1997. Its year-end subscriber number is as of that date.

- US West (MediaOne) -

US West acquired Continental Cablevision on November 15, 1996, and became "MediaOne." The US West numbers represented here are pro forma Continental Cablevision acquisition.

TABLE B-8
Acquisition of Capital: 1989 - June 1997
(\$ in million)

Year	Private Debt		Public Debt		Private Equity		Public Equity		Total Capital Raised From Financing Sources*
	Sum Raised	% of Total	Sum Raised	% of Total	Sum Raised	% of Total	Sum Raised	% of Total	
1989	\$6,494	80%	\$840	10%	\$726	9%	\$108	1%	\$8,168
1990	\$4,637	81%	\$490	9%	\$597	10%	\$0	0%	\$5,724
1991	\$689	16%	\$912	22%	\$1,290	30%	\$1,350	32%	\$4,241
1992	\$(1,762)	-69%	\$2,400	93%	\$1,710	67%	\$220	9%	\$2,568
1993	\$(3,583)	-186%	\$5,280	274%	\$62	3%	\$165	9%	\$1,924
1994	\$4,772	71%	\$1,089	16%	\$409	6%	\$461	7%	\$6,731
1995	\$(808)	-9%	\$4,500	51%	\$1,109	13%	\$3,976	45%	\$8,777
1996	\$2,616	38%	\$1,354	20%	\$49	1%	\$3,450	41%	\$7,469
Jan - Jun 1997	\$735	9%	\$6,972	84%	\$12	0%	\$1,200	7%	\$8,919
Total: 1989-June 1997	\$13,790		\$23,837		\$ 5,964		\$17,215		\$60,806
Average Raised Per Year	\$1,622		\$2,804		\$702		\$2,025		\$7,153

* Total Capital Raised From Financing Sources = Private Debt + Public Debt + Private Equity + Public Equity.

Sources:

- ! **1989** - Paul Kagan Assoc., Inc., *Estimated Capital Flows in Cable TV*, The Cable TV Financial Databook, June 1993, at 86.
- ! **1990** - Paul Kagan Assoc., Inc., *Estimated Capital Flows in Cable TV*, The Cable TV Financial Databook, June 1994, at 92.
- ! **1991** - Paul Kagan Assoc., Inc., *Estimated Capital Flows in Cable TV*, The Cable TV Financial Databook, July 1995, at 92.
- ! **1992 to 1995** - Paul Kagan Assoc., Inc., *Estimated Capital Flows in Cable TV*, The Cable TV Financial Databook, July 1996, at 115.
- ! **1996** - Paul Kagan Assoc., Inc., *Cable Financing Snapshot*, Cable TV Finance, Jan. 31, 1997 at 10.
- ! **1997** - Paul Kagan Assoc., Inc., *Cable Financing Snapshot*, Cable TV Finance, July 31, 1997 at 8.

TABLE B-9
System Transactions: 1994 - June 1997

	1994	1995	94-95 Change	1996	95-96 Change	Jan - Jun 1997
Number of Systems Sold	64	128	100%	103	-19.5%	44
Total Number of Subscribers	7,504,177	10,937,652	45.8%	7,800,000	-28.7%	2,385,232
Average System Size	117,253	85,450	-27.1%	75,728	-11.4%	54,210
Number of Homes Passed	12,492,997	17,216,963	37.8%	12,610,000	-26.8%	3,713,965
Avg. # of Homes Passed	195,203	134,507	-31.1%	122,427	-9.0%	84,408
Total Dollar Value (mil.)	\$14,025	\$20,083	43.2%	\$16,254	-19.1%	\$3,998
Average Dollar Value (mil.)	\$219	\$156	-28.4%	\$157	0.6%	\$904
Dollar Value Per Home	\$1,123	\$1,166	3.8%	\$1,246	6.9%	\$1,077
Dollar Value Per Subscriber	\$1,869	\$1,836	-1.8%	\$2,065	12.5%	\$1,677
Cash Flow Multiple	10.3x	9.7x	-5.8%	11.0x	13.4%	7.7x

Sources:

- ! **1994 and 1995** - Paul Kagan Assoc., Inc., *Year-To-Date Cable System Sale Summary*, Cable TV Investor, Feb. 24, 1997, at 12.
- ! **Jan 1997 to June 1997** - Paul Kagan Assoc., Inc., *Year-To-Date Cable System Sale Summary*, Cable TV Investor, July 9, 1997, at 10.

**TABLE B-10 Price Comparison - Cable vs. DBS and MMDS
Average Monthly Rate, As of July 1997**

	Cable	DBS	MMDS
Programming Service (Basic Service Tier and Cable Programming Services Tier)	\$26.33	\$27.49 ^(*)	\$21.29
Equipment	\$ 2.53	\$ 3.33 ^(**)	n/a ^(***)
Total (Programming and Equipment)	\$28.83	\$30.82	\$21.29
Average Number of Channels	49.5	47	22.7
Average Monthly Rate per Channel	\$0.63	\$0.66	\$0.94
Installation (One time Charge)	\$39.56	\$175.00 ^(****)	\$35.00

(*)The service package most comparable to cable programming services; does not include local broadcast channels.

(**) Average equipment cost for DBS service is a one time charge of \$200. If we assume this can be spread over a five year period (60 months), this is equivalent to \$3.33 per month (excluding any allowance for the time value of money). The costs associated with service to additional television sets is not included in these equipment charges.

(***) Equipment changes are included with the charge for programming services.

(****) Average cost of a professional installation. A "do-it-yourself" installation kit is also available at an average cost of \$50.

Sources:

- ! Cable: 1997 Cable Industry Price Survey
- ! DBS: SCBA. Average of DIRECTV and Primestar, the two largest DBS providers.
- ! MMDS: WCA's 1997 U.S. Wireless Cable Industry Directory. Average of 136 wireless cable operators reporting monthly service charge and number of channels offered in Directory.

Table B-11
Cable Modem Deployment as of May 15, 1997

MSO	City(ies)	Modem Supplier	Monthly Rate	Install Charges
Adelphia	Palm Beach County, FL Ocean County, NJ Coudersport, Lansdale & Mt. Lebanon, PA Amherst, Tonawanda, & Grand Island, NY Plymouth, Adams & N. Adams, MA	General Instrument and LAN City (Bay Networks)	\$34.95 - \$44.95 \$39.95	\$99.95
Cablevision Systems	N. Oyster Bay, NY	LANCity (Bay Networks)	\$45.00	\$150
Comcast	Towson & Baltimore, MD Sarasota, FL Union, NJ	Motorola	\$39.95 - \$59.95	\$175
U S West Media One	Boston, MA area Detroit, MI area Jacksonville, FL Omaha, NE	LANCity (Bay Networks) and General Instruments	\$34.95 - \$59.95	\$99.95
Cox	Orange County, Mission Viejo, Poway & San Diego, CA Phoenix, AZ Meridian, CT	Motorola	\$44.95 - \$54.95	\$175
Jones Intercable	Alexandria, VA	LANCity (Bay Networks)	\$39.95	\$99.95
TCI	Arlington Heights, IL E. Lansing, MI Fremont & Sunnyvale, CA Hartford, CT Seattle, WA	Zenith, LANCity (Bay Networks), and Motorola	\$34.95 - \$44.95	\$69 - \$150
Time Warner	Akron & Canton, OH Corning, Elmira, Binghamton, Albany, Troy Saratoga, NY San Diego, CA Portland, ME	Motorola, Hewlett Packard, and Toshiba	\$24.95	\$200

Sources:

- ! Fred Dawson, *Cable Modems Pass 2M Mark; MSOs Turn to Next Phase*, Multichannel News, March 17, 1997 at 119 and 135.
- ! Michael Harris, *Cable Modem Commercial Launches and Trials in North America*, Kinetic Strategies, May 15, 1997. See <http://CableDatacomNews.com/cm1c7.htm>.

Appendix C

Table C-1

Satellite Orbital Positions

Licensees	Total Channels	Western Positions				Eastern Positions			
						"Full CONUS" (a)			61.5°
		175°	166°	157°	148°	119°	110°	101°	
DIRECTV	54			27				27	
USSB	16				8		3	5	
Echostar	35	(b)	(b)		24 (c)	11			
Directsat	22	11				10	1		
DBSC	22	11							11
MCI	28						28 (d)		
Tempo/ Primestar(g)	22		11			11			
Continental (Rainbow/ Loral DBS)	22		11						11
Dominion	8 (f)		(e)						8
Unassigned	27	10	10	5					2
Total	256	32	32	32	32	32	32	32	32

Notes:

- (a) "Full CONUS" indicates that the signal transmissions from satellites in these orbital slots are capable of reaching all parts of the continental United States.
- (b) Echostar has petitioned the Commission for 11 channels at 166° and 175° west latitude.
- (c) Echostar won the auction for the 24 channels at 148° west latitude.
- (d) MCI won the auction for the 28 channels at 110° west latitude.
- (e) Dominion has petitioned the Commission for 8 channels at 166° west latitude.
- (f) Dominion has a second petition pending before the Commission for 11 channels at an unspecified orbital position.
- (g) Tempo is a wholly-owned subsidiary of TCI Satellite Entertainment.

Source: *Number of DBS Channels by Ownership and Orbital Locations Table*, FCC, 1997; USB Securities, Jun. 1996, at 26.

Table C-2

DBS Industry Licensed Number of Transponders and Their Ranges

Company	Full CONUS(1)	Other Positions	Total	Full CONUS(1)	Total Positions
DIRECTV	27	27	54	28%	21%
USSB	8	8	16	8%	6%
Echostar	11	24	35	11%	14%
Directsat	11	11	22	11%	9%
DBSC	0	22	22	0%	9%
MCI	28	0	28	29%	11%
Tempo/ Primestar (2)	11	11	22	11%	9%
Continental (Rainbow/ Loral DBS)	0	22	22	0%	9%
Dominion	0	8	8	0%	3%
Unassigned	0	27	27	0%	11%
Total	96	160	256	100%	100%
DBS Providers Orbital Positions	Full CONUS(1)	Other Positions	Total	Full CONUS(1)	Total Positions
DIRECTV/USSB	35	35	70	36%	27%
Echostar	11	24	35	11%	14%
Tempo/ Primestar (2)	11	11	22	11%	9%

NOTES:

- (1) "Full CONUS" indicates that the signal transmissions from satellites in these orbital slots are capable of reaching all parts of the continental United States.
- (2) Tempo is a wholly-owned subsidiary of TCI Satellite Entertainment.

SOURCES:

Number of DBS Channels by Ownership and Orbital Locations Table, FCC, 1997; Rick Westerman, *Direct Broadcast Satellite, Outlook*, UBS Securities, Mar. 4, 1997, at 9.

Table C-3

DBS Providers

DBS STATISTICS	DIRECTV ⁽¹⁾	USSB	Primestar	Echostar
Launch Date	June 1994	June 1994	January 1994	March 1996
Subscribers				
Sept. 1997	2,892,000	(included with	1,809,000	820,000
Sept. 1996	1,920,000	DIRECTV ⁽²⁾)	1,475,000	190,000
Change	972,000		334,000	630,000
Growth	50.6%		22.6%	331.6%
Channels⁽³⁾	175 HP	29 HP	165 MP	140 HP
Basic Programming Package	"Total Choice" 44 basic channels	"The Basics" 9 basic channels	"Prime Value" 50 basic channels	"DISH Pix" 10 basic channels
Monthly Cost	\$29.99	\$7.95	\$24.99 ⁽⁴⁾	\$15.00
Most Complete Programming Package	"Total Choice Platinum" 75 basic channels, 29 sports channels, 14 premium movie channels	"Entertainment Plus" 8 basic channels, 18 premium movie channels	"Light Up the Sky" 66 basic channels, 14 premium movie channels	"America's Top 50" 50 basic channels, 1 regional sports channel
Monthly Cost	\$47.99	\$34.95	\$65.99	\$26.99 ⁽⁵⁾

DBS STATISTICS	DIRECTV	USSB	Primestar	Echostar
System Costs⁽⁶⁾				
Single Receiver	\$199	\$199	\$199 ⁽⁷⁾	\$199
Dual Receiver	\$350	\$350	\$398	\$300
Professional Installation	\$150-\$200	\$150-\$200	\$149 ⁽⁸⁾ N/A	\$179
Self-Installation	\$50	\$50		\$70
Equipment Sources	Electronics/TV retailers, AT&T, DSS equipment manufacturers (e.g. RCA, Hitachi, Sony)	Electronics/TV retailers and AT&T	MSO partners, Radio Shack, Key America and Associated Volume Buyer's	Electronics/TV retailers

Notes:

- (1) DIRECTV and United States Satellite Broadcasting Company, Inc. ("USSB") are complementary DBS services. They use the same technology, jointly market the same equipment, and together provide 200 channels of mutually exclusive programming. *1996 Report*, 12 FCC Rcd at 4378 ¶ 41 n. 90.
- (2) DIRECTV and USSB subscribers are reported together in *DTH Subscribers*, SkyREPORT, Nov. 1997, at 10. SkyREPORT's count of the number of DIRECTV/USSB subscribers is based on households that subscribe to either of these services to avoid "double-counting" subscribers that subscribe to both services.
- (3) "HP" - "High Power" Ku-Band Direct Satellite Service (DSS) uses an 18" dish. "MP" - "Medium Power" Ku-Band Fixed Satellite Service (FSS) uses a 27" or 36" dish (depending upon the subscriber's location).
- (4) Primestar's subscribers have the option to purchase equipment or rent it for an additional \$10 monthly charge.
- (5) Echostar charges subscribers \$300, or the equivalent of \$25 per month, if they purchase one year of the "America's Top 50" programming package in advance.
- (6) The cost of equipment varies depending upon discounts and other incentives offered by equipment retailers. The basic antenna dish receiver system is capable of providing satellite programming to one television channel at a time on multiple television sets. The dual antenna dish receiver system can provide multiple channels of satellite programming to two to three television sets simultaneously.
- (7) Primestar subscribers can also purchase used equipment for \$149.
- (8) Primestar mandates that subscribers that rent must have their equipment professionally installed, but the company is giving these customers a \$100 rebate off the installation cost through Jan. 1998.

Sources:

DTH Subscribers, SkyREPORT, Nov. 1997, at 10; *1996 Report*, 12 FCC Rcd at 4378-4381 ¶ 41; <http://www.PrimeStar.com/ezget/whatsnew/sept.htm>;
<http://www.dishnetwork.com/prog/quick.htm>;
<http://www.dishnetwork.com/need/premium.htm>; <http://www.USSB.com/package.html>;
<http://www.directv.com/programming/compare.html>; http://dishonline.com/4dtv_1.htm; www.dishonline.com/rca.htm.

Table C-4-A

Direct-To-Home Satellite Services

Total Subscribers

PROVIDERS	July 1, 1994	July 1, 1995	July 1, 1996	July 1, 1997
DBS	70,000	1,150,000	2,950,000	5,047,000
HSD	1,922,810	2,321,350	2,336,930	2,184,470
Total	1,992,810	3,471,350	5,286,930	7,231,470

Table C-4-B

Annual Subscriber Growth

PROVIDERS	1994-1995	1995-1996	1996-1997
DBS	1,080,000	1,800,000	2,097,000
HSD	398,540	15,580	-152,460
Total	1,478,540	1,815,580	1,944,540

Table C-4-C

Subscribers Growth Rate
(Percentage Change)

PROVIDERS	1994-1995	1995-1996	1996-1997
DBS	1,542.9%	156.5%	71.1%
HSD	20.7%	0.7%	-6.5%
Total	74.2%	52.3%	36.8%

Source: SBCA Comments at Appendix A; *DTH Subscribers*, SkyREPORT, Nov. 1997, at 10.

Table C-5

DTH Subscribers

Date	HSD	DIRECTV/ USSB*	Prime- Star	Echo Star	Alpha Star	Monthly Total	Month- to-Month Change
Oct-96	2,314,950	2,028,000	1,550,000	235,000	12,000	6,139,950	
Nov-96	2,302,770	2,135,000	1,580,000	285,000	20,000	6,322,770	182,820
Dec-96	2,277,760	2,300,000	1,600,000	350,000	35,000	6,562,760	239,990
Jan-97	2,255,860	2,370,000	1,610,000	396,000	37,000	6,668,860	106,100
Feb-97	2,234,600	2,420,000	1,630,000	437,000	40,000	6,761,600	92,740
Mar-97	2,224,810	2,470,000	1,662,000	480,000	45,000	6,881,810	120,210
Apr-97	2,215,210	2,520,000	1,700,000	513,000	51,000	6,999,210	117,400
May-97	2,194,380	2,575,000	1,738,000	545,000	51,000	7,103,380	104,170
Jun-97	2,184,470	2,639,000	1,767,000	590,000	51,000	7,231,470	128,090
Cumulative Total							1,091,520

Notes:

*SkyREPORT's count of the number of DIRECTV/USSB subscribers is based on households that receive either of these services to avoid "double-counting" subscribers that subscribe to both services.

Source:

DTH Subscribers, SkyREPORT, Nov. 1997, at 10.

Appendix D

Table D-1

**Top Ten SMATV Operators Serving MDUs
(Ranked by Number of Units Passed)**

1997 Rank (1996 Rank)	Company	Properties	Units Passed	Retail Subs.	Bulk Subs.
1 (2)	OpTel (i)	943	284,260	101,460	46,000
2 (1)	ICS (Interactive Cable Systems)	450	132,000	65,000	5,000
3 (3)	Cable Plus	324	115,000	55,000	18,000
4 (4)	Mid-Atlantic Cable	155	75,000	38,500	3,500
5 (6)	Liberty/RCN	235	68,000	32,000	16,000
6 (7)	MTS (MultiTechnology Services)	117	60,000	36,000	0
7 (5)	CAI Wireless (ii)	211	57,410	23,510	10,020
8 (8)	Edward Rose & Sons	63	34,580	23,540	0
9 (10)	Wireless Cable of Atlanta (ii) (iii)	35	14,500	8,600	400
10 (iv)	Ultronics	104	7,700	3,650	1,450
	TOTALS	2,637	848,450	387,260	100,370

Notes:

(i) Information on OpTel has been revised to reflect its acquisition of Phonosope and TARA Communications Systems, Inc. this year.

(ii) Some CAI Wireless and Wireless Cable of Atlanta subscribers also receive MMDS service.

(iii) BellSouth signed an agreement to acquire Wireless Cable of Atlanta on Feb. 12, 1997.

(iv) Ultronics was not among the top ten SMATV operators last year.

Sources:

Paul Kagan Associates, Inc., *Private Cable Census*, Private Cable Investor, Dec. 31, 1996, at 2; *News, CEA Announces Sale of Private Cable Systems*, Private Cable & Wireless Cable, Jun. 1997, at 89; Joe Estrella, *Private Cable Giant Buys Houston MDUs*, Multichannel News, Sep. 8, 1997, at 47; *BellSouth Acquires Wireless Cable of Atlanta, Video Services to be Available to 900,000 Households*, BellSouth News Release, Feb. 12, 1997.

Appendix E

Table E-1

Assessment of Competing Technologies (i)

Technology Used					
	Dec. 1993	Dec. 1994	Dec. 1995	Dec. 1996	Jun. 1997
(1) TV Households ⁽ⁱⁱ⁾ Pct. Change	94,200,000	95,400,000 1.27%	95,900,000. 52%	97,000,000 1.15%	97,000,000 0.00%
(2) MVPD Households ⁽ⁱⁱⁱ⁾ Pct. Change <i>Pct. of Households</i>	60,283,000 63.99%	63,936,620 6.06% 67.02%	68,487,750 7.12% 71.42%	72,370,950 5.67% 74.61%	73,646,970 1.76% 75.92%
(3) Cable Subs. Per Cent Change <i>Pct. of MVPD Total</i>	57,200,000 94.89%	59,700,000 4.37% 93.37%	62,100,000. 02% 90.67%	63,500,000 2.25% 87.74%	64,150,000 1.02% 87.10%
(4) MMDS Subs. Pct. Change <i>Pct. of MVPD Total</i>	397,000 0.66%	600,000 51.1% 0.94%	851,000 41.83% 1.24%	1,180,000 38.66% 1.63%	1,100,000 -6.78% 1.49%
(5) SMATV Subs. Pct. Change <i>Pct. of MVPD Total</i>	1,004,000 1.67%	850,000 -15.34% 1.33%	962,000 13.18% 1.40%	1,126,000 17.05% 1.56%	1,162,500 3.24% 1.58%
(6) HSD Subs. Pct. Change <i>Pct. of MVPD Total</i>	1,612,000 2.67%	2,178,000 35.11% 3.41%	2,365,400 8.60% 3.45%	2,277,760 -3.71% 3.15%	2,184,470 -4.10% 2.97%
(7) DBS Subs. Pct. Change <i>Pct. of MVPD Total</i>	< 70,000 0.12%	602,000 760.00% 0.94%	2,200,000 265.45% 3.21%	4,285,000 94.77% 5.92%	5,047,000 17.78% 6.85%
(8) OVS Subs. (iv) Pct. Change <i>Pct. of MVPD Total</i>				2,190 0.0%	3,000 36.99% 0.00%
(9) VDT Subs. (Trials) (v) Pct. Change <i>Pct. of MVPD Total</i>		6,620 0.01%	9,350 41.24% 0.01%	0 -100.00% 0.00%	0 0.00% 0.00%

NOTES:

- (i) Some numbers have been rounded.
- (ii) The year-end 1996 and June 1997 figures are the same because Nielsen's annual update does not take effect until September, the beginning of the new television season.
- (iii) The total number of MVPD households is likely to be somewhat less than the given figure due to households subscribing to the services of more than one MVPD. *See e.g. 1994 Report*, 9 FCC Rcd at 7480 ¶ 74. The number of such households is likely low, however, so the given total can be seen as a reasonable estimate of the number of MVPD households. *See* (2) under Sources.
- (iv) This system was formerly Bell Atlantic's VDT system in Dover Township, New Jersey, which has been converted to an OVS system. *See* note (v).
- (v) The 1996 Act repealed the VDT framework. For details, *see* ¶¶ 109, 113 and 117 *supra*. These trials were converted to an OVS format and cable franchises. *See* note (iv).

SOURCES:

- (1) Television households: 1992-94 from A. C. Nielsen Co. as of January of the following year cited by Veronis, Suhler & Associates, *Homes Passed by Cable and Incidence of Subscription*, The Veronis, Suhler & Associates Communications Industry Forecast, July 1995, at 145; 1995 from Nielsen Media Research as cited in *Broadcasting & Cable*, Jan. 8, 1996, at 50; 1996 from Nielsen Media Research as cited in *Broadcasting & Cable*, Jan. 13, 1997 at 118; and 1997 from Nielsen Media Research as cited in *The TV Column*, Washington Post, Aug. 26, 1997, at E4.
- (2) Total MVPD households: The sum of the total number of subscribers listed under each of the categories of the various technologies. *See* note (ii) above. Because there were no permanent VDT subscribers, trial VDT subscriber figures were used in 1994-95.
- (3) Cable subscribers: 1992-94 from Paul Kagan Associates, Inc., *History of Cable and Pay-TV Subscribers and Revenues*, Cable TV Investor, June 30, 1995, at 5; 1995-97 from Paul Kagan Associates, Inc., *Paul Kagan's 10-Year Cable TV Industry Projections*, The Cable TV Investor, May 20, 1997, at 9.
- (4) MMDS subscribers: 1992-1994 from Paul Kagan Associates, Inc., *Wireless Cable Industry Projections, 1992-2002*, The 1995 Wireless Cable Databook, Jan. 1995, at 23; 1995-1996 from Paul Kagan Associates, Inc., *Wireless Cable Futures*, Wireless Cable Investor, Dec. 31, 1996, at 10-11; and 1997 from WCAI Comments at 8.
- (5) SMATV subscribers: 1992-1994 based on discussion with John Mansell, Senior Analyst, Paul Kagan Associates, Inc. and reference to *Cable & Pay TV Census -- December*, Marketing New Media, Dec. 19, 1994; 1995-1996 from *Private Cable Growth*, Private Cable Investor, Jul. 1997, at 3. The 1997 subscribers have been estimated by the FCC based on data from Paul Kagan Associates, Inc., *Private Cable Growth*, Private Cable Investor, Jul. 1997, at 3.

- (6) HSD subscribers: 1992 from *C-Band Subscriptions in the Sky*, SkyREPORT, 1st Q 1994 at 12, and information provided by the SkyTRENDS research staff based on the number of General Instrument authorizations for receipt of scrambled programming; 1993 from *Subscription Data from General Instrument VC II+ Authorizations*, SkyREPORT, Oct. 1994, at 21; 1994 from *1994 Net Authorizations*, SkyREPORT, Feb. 1995, at 9. (The 1992-94 HSD subscriber figures were reduced by 1% to account for the estimated number of Canadian subscribers.) 1995 from *DTH Subscribers*, SkyREPORT, Jan. 1997, at 8 and SBCA Comments at Appendix A; and 1996-1997 from *DTH Subscribers*, SkyREPORT, Nov. 1997, at 10.
- (7) DBS subscribers: 1993 from *Let the Games Begin*, SkyREPORT, May 1994, at 2; 1994 from Kent Gibbons, *DBS: We're Walking the Walk*, Multichannel News, Jan. 16, 1995, at 3, 52; 1995 from *DTH Subscribers*, SkyREPORT, Jan. 1997, at 8; and 1996-1997 from *DTH Subscribers*, SkyREPORT, Nov. 1997, at 10.
- (8) OVS subscribers: 1996 from Bell Atlantic Comments at 5. The 1997 subscribers have been estimated by the FCC.
- (9) VDT trial subscribers: 1994-95 from Section 214 Applications, *ex parte* letters and associated filings with the FCC.

TABLE E-2

**Number and Subscriber Size of Major Cable System Clusters
(Cumulative Figures)**

Range of Clustered Subscribers (thousands)	1994		1995		1996	
	Clusters	Subs. (millions)	Clusters	Subs. (millions)	Clusters	Subs. (millions)
100-199	58	8.0	76	10.4	76	10.3
200-299	26	6.0	35	8.4	34	8.3
300-399	6	2.0	8	2.8	11	3.7
400-499	3	1.3	10	4.5	8	3.6
> 500	4	2.8	8	5.1	10	7.7
Total	97	20.1	137	31.2	139	33.6

Sources:

Paul Kagan Associates, Inc., *Major Cable TV Systems/Clusters*, The Cable TV Financial Databook, 1995, at 38-39; 1996, at 38-40; 1997, at 39-41.

TABLE E-3

1997 Cable MSO Horizontal Concentration Nationwide¹

Rank	Company	Per Cent of Subscribers ²
1	TCI	29.32
2	Time Warner	18.33
3	MediaOne	7.98
4	Comcast	6.71
Top 4		62.34
5	Cox	5.10
6	Cablevision	4.50
7	Jones	2.30
8	Century	1.86
9	Marcus	1.85
10	Adelphia	1.83
Top 10		79.77
Top 25		91.81
Top 50		96.93
	HHI	1379³

¹Calculated by applying the Commission's attribution rules to account for market shares as of June 30, 1997, based on subscriber totals as of June 30, 1997, and reported in Paul Kagan Associates, Inc., *Top 100 Cable System Operators as of June 30, 1997*, Cable TV Investor, Sep. 10, 1997 at 10. If a cable operator might be attributable to more than one MSO, it was assigned to the largest MSO. Thus, there is no double counting of cable operators.

²The total number of industry subscribers used to calculate the HHIs is 64,150,000, as reported in Table E-1.

³The HHI is calculated on the basis of market shares for the top 50 companies. Because all of the remaining MSOs have very small shares of the market, an HHI calculation that included all cable system operators could only be slightly higher (no more than 2-3 points) than the given HHI.

TABLE E-4
Changes In Concentration Of The Cable Industry 1990-1997

	1990	1991	1992	1993	1994	1995	1996	1997
Top Share	24.0	24.5	25.2	24.3	24.8	25.9	28.0	29.3
Top 2	36.7	37.1	37.9	36.9	37.3	42.1	46.9	47.7
Top 3	42.0	42.3	43.2	42.3	42.4	48.9	54.6	55.6
Top 4	45.6	46.0	48.2	47.2	47.2	54.6	61.4	62.3
Top 10	61.6	61.4	64.6	63.2	63.3	73.2	80.2	79.8
Top 25	80.8	80.2	84.5	83.1	83.4	88.5	91.5	91.8
Top 50	91.2	90.9	94.5	93.1	92.4	95.2	96.6	96.9
HHI	866	872	928	880	898	1098	1326	1379

The information provided in this Table is for purposes of comparison to corresponding tables in past reports.

Data Sources:

Data for 1997 from Table E-3 above.

Data for 1996 from *The Kagan Media Index*, August 31, 1996 at 8, 14; Paul Kagan Assoc., *Top 100 Cable System Operators as of March 31, 1996*, Cable TV Investor, June 20, 1996; Paul Kagan Assoc., *Top Private Cable Operators*, Private Cable Investor, December 31, 1995 at 2; Paul Kagan Assoc., *Apollo Cable Sale Complete*, Private Cable Investor, May 31, 1996, at 5 and SEC documents.

Data for 1995 from *1995 Report*, 11 FCC Rcd 2184 at Appendix G, Table 4. Data for 1990 through 1994 were calculated from information contained in Paul Kagan Assocs., Inc., *Cable TV Financial Databook 14* (1991); Paul Kagan Assocs., Inc., *Pay TV Subscriber History*, Cable TV Financial Databook 12 (1992); Paul Kagan Assocs., Inc., *Pay TV Subscriber History*, Cable TV Financial Databook 12 (1993); and Paul Kagan Assocs., Inc., *Pay TV Subscriber History*, Cable TV Financial Databook 14 (1994), Paul Kagan Assoc., Inc.

The data for the years 1990-94 have been recalculated after discussions with Paul Kagan Associates personnel concerning that company's methodology for including consolidated, non-consolidated and international subscribers. International subscribers have been deducted from TCI's subscriber totals in 1991-93 and the estimate of TCI's subscribers in 1994 was similarly modified assuming continuation of historical trends. The figure for TCI's subscribership in 1990 is based on information contained in TeleCommunications, Inc., *Form 10-K*, Dec. 31, 1990, at I-2 to I-4.

TABLE E-5

1997 MVPD Horizontal Concentration Nationwide¹

Rank	Company	Per Cent of Subscribers ²
1	TCI	25.54
2	Time Warner	15.97
3	MediaOne	6.95
4	Comcast	5.84
Top 4		54.30
5	Cox	4.44
6	Cablevision	3.92
7	DirecTV/USSB	3.58
8	Primestar	2.40
9	Jones	2.00
10	Century	1.62
Top 10		72.26
Top 25		84.94
Top 50		89.92
	HHI	1166³

¹See Table E-3, n.1. Subscribers for DirecTV/USSB and Primestar based on *DTH Subscribers* (Chart), SkyREPORT, Oct. 1997, at 9.

²The total number of MVPD subscribers used to calculate the HHIs is 73,646,970 from Table E-1. Differences in totals reflect rounding.

³The HHI is calculated on the basis of market shares for the top 50 companies. Because all of the remaining MVPDs have very small shares of the market, an HHI calculation that included all cable system operators could only be slightly higher (no more than 2-3 points) than the given HHI.

Table E-6

TCI Announced Acquisitions and Joint Ventures

Type of Transaction	Managing Partner	TCI Subs. Contributed (thousands)	TCI Equity Interest Taken	Geographic Areas of TCI Subs. Contributed
Acquisition	Cablevision	820	30.0%	NY, NJ
Joint Venture	Time Warner	555	50.0%	Houston, TX
Joint Venture	Time Warner	95	50.0%	Kansas City, KS
Joint Venture	Adelphia	166	minority	Great Lakes Area
Limited Partnership	Falcon	300	40.0%	AL, CA, MO, OR, WA
Limited Partnership	Intermedia	425	49.5%	KY
Joint Venture	TCA	150	20.0%	TX, LA
	Total Subs. Contributed	2,511		

Source: Table E-7.

TABLE E-7

**Consummated and Announced Cable System Transactions
November 1996 - September 1997**

DATE	BUYER	SELLER	SYSTEMS	PRICE** (Mil.)	BASIC SUBS.	PRICE/ SUB.***	CASH FLOW MULT.
Nov-96	State Cable TV	Pegasus Cable	central/ northern NH	\$7.2	4,600	\$1,572	9.5
Dec-96	Various (6)	Booth American	FL; CA; MI; NC; SC; VA	\$287.1	144,200	\$1,991	10.0
Dec-96	Charter Communications	Masada Cable	MO; TN; AL; MT	\$55.0	31,300	\$1,757	9.1
Dec-96	New Path Communications	Regional Cable	IN; OH; MO; KY; IL; MI	\$8.2	12,100	\$671	5.5
Dec-96 (c)	Friendship Cable of AR	Douglas Communications, MidSouth	AR; MS	\$7.1	8,800	\$809	7.0
Dec-96	Star Vision (Genesis Cable Communications)	Milestone Communications	Roseboro/ Salemberg, NC	\$0.7	800	\$888	7.0
Jan-97	Mediacom	Saquaro Cable TV	Nogales, AZ	\$12.0	8,000	\$1,498	7.9
Jan-97	Mediacom	Valley Center Cable	Valley Center (San Diego), CA	\$2.8	2,000	\$1,407	7.4
Jan-97	St. Joseph Cable	Mark Twain Cablevision	Oak Creek/ Kachina, AZ	\$4.5	3,100	\$1,444	8.5
Jan-97	Rapid Communications	Cablevision of TX III	western OK	\$3.7	4,300	\$866	6.9
Jan-97	FrontierVision Partners	Deep Creek Cable TV	Deep Creek Lake, MD	\$2.9	2,300	\$1,240	8.1
Jan-97	Helicon Corp.	Mid-South Cable TV	Hamilton/ Roane/ Meigs, TN	\$2.3	2,000	\$1,150	8.0
Jan-97	Cooney Cable Association	Bath Cable TV	Hot Springs, VA	\$1.2	1,000	\$1,182	7.9
Jan-97	TCA	TCI	Jonesboro, AR	\$41.0	21,000	\$1,952	9.8

DATE	BUYER	SELLER	SYSTEMS	PRICE** (Mil.)	BASIC SUBS.	PRICE / SUB.***	CASH FLOW MULT.
Jan-97	Friendship Cable of AR	TCI	Osceola, AR	\$7.6	8,500	\$900	7.0
Jan-97	Century Telephone	Pecoco	Dodge/ Columbia Cos., WI	\$3.9	3,300	\$1,183	8.5
Jan-97 (c)	Post-Newsweek	Verde Valley CATV	Cornville, AZ	\$0.7	700	\$987	7.0
Feb-97 (c)	Charter Communications	Prime Cable	Hickory, NC	\$68.1	35,000	\$1,946	9.8
Feb-97	Mid Atlantic Cable	Cecilton CATV	Cecil/ Kent Cos., MD	\$3.0	2,000	\$1,500	9.4
Feb-97 (c)	Adelphia	Small Cities Cable	Shelburne, VT	\$10.6	6,400	\$1,660	10.5
Feb-97	Jones Intercable	Jones Investors/MLP	Independence, MO	\$171.2	85,400	\$2,005	9.6
Mar-97	Marcus Cable	Harron Cable	Dallas, TX area	\$34.9	21,800	\$1,600	9.1
Apr-97	FrontierVision	Milestone Communications	Apple Valley, OH	\$3.0	2,200	\$1,395	8.0
Apr-97 (c)	Time Warner*	Marcus Cable*	W. Allis, De Pere, WI	\$98.0	55,000	\$1,782	9.1
Apr-97	Marcus Cable*	Time Warner*	Eau Claire, WI	\$98.0	70,000	\$1,400	9.0
Apr-97	Florida Cable	Performance Cable	Altoona, FL	\$0.6	700	\$893	7.0
May-97	Charter Communications	US West/MediaOne	Minneapolis, MN	\$600.0	290,000	\$2,069	10.0
May-97	Time Warner Entertainment*	Adelphia*	Mansfield, OH	\$96.5	67,600	\$1,428	8.8
May-97	Adelphia*	Time Warner Entertainment*	VA; VT; NH; NY	\$65.2	37,500	\$1,740	9.3

DATE	BUYER	SELLER	SYSTEMS	PRICE** (Mil.)	BASIC SUBS.	PRICE / SUB.***	CASH FLOW MULT.
May-97	Time Warner/ Advance/ Newhouse*	Adelphia*	Syracuse/ Henderson, NY	\$88.9	61,000	\$1,458	9.0
May-97	Adelphia*	Time Warner/ Advance/ Newhouse*	Lynchburg/ Dubois, VA	\$86.9	49,700	\$1,748	9.3
May-97	FrontierVision	Cablevision	Bangor, ME	\$78.0	53,000	\$1,471	9.0
May-97	Adelphia*	Time Warner*	Danville, VA	\$49.9	26,300	\$1,895	9.5
May-97	Time Warner*	Adelphia*	Columbus area, OH	\$12.6	9,100	\$1,387	8.5
May-97	Gans Multimedia	American CATV 5	St. Mary's Co., MD	\$27.4	19,400	\$1,414	7.8
May-97	Charter Communications II	Cencom Partners	Lincolnton, NC	\$21.4	15,200	\$1,414	7.8
May-97	TCI	US West Media	Twin Falls, ID	\$20.9	16,000	\$1,303	7.8
May-97	Rifkin Acquisition Partners	American CATV 5	Shelbyville, TN	\$14.4	11,600	\$1,242	7.5
May-97	Mediacom LLC	Cox Communications	Sun City, CA	\$13.4	10,000	\$1,342	8.5
May-97	TCI	US West Media	Ellensburg, WA	\$7.6	6,000	\$1,261	7.5
May-97	West Communications LLC	TriStar Cable	KS; MO; NB; OK	\$1.4	3,000	\$433	6.5
Jun-97	Cablevision	TCI	NY/NJ metro area	\$1,268.8	820,000	\$1,547	6.1
Jun-97	Falcon Holdings	TCI	CA; OR; WA	\$504.9	300,000	\$1,683	10.0
Jun-97	Adelphia/TCI jv	TCI	Buffalo, NY Erie, PA	\$350.0	166,000	\$2,108	10.0
Jun-97	Mediacom	American Cable 5	Dagsboro, DE	\$43.1	29,300	\$1,471	8.9
Jun-97	FrontierVision	Triax	Waterville, OH, et. al	\$30.2	20,800	\$1,452	9.3
Jun-97	Charter Communications II	Cencom Partners II	Pelzer, SC	\$27.4	21,300	\$1,283	7.5
Jun-97	Charter Communications	Cencom Partners	Sanford, NC	\$17.0	12,800	\$1,325	7.5

DATE	BUYER	SELLER	SYSTEMS	PRICE** (Mil.)	BASIC SUBS.	PRICE / SUB.***	CASH FLOW MULT.
Jun-97	ETAN Industries	Cencom Partners II	Cleveland/ Jasper, TX	\$7.1	6,900	\$1,037	7.0
Jun-97	Adelphia	Mercom	Port St. Lucie, FL	\$3.8	1,900	\$2,000	10.7
Jun-97	Charter Communications II	Cencom Partners	Abbeville, SC	\$3.3	2,600	\$1,296	7.5
Jun-97	Northland Communications	Cencom Partners II	Marlin, TX	\$2.9	3,600	\$810	6.8
Jul-97	Intermedia Partners	TCI	KY	\$946.0	425,000	\$2,226	10.1
Jul-97	TCI/TCA jv	TCI	TX; LA	\$310.0	150,000	\$2,068	9.2
Jul-97	TCI/TCA jv	TCA Cable	TX; LA; NM	\$285.0	155,000	\$1,839	8.7
Jul-97	G Force LLC	InterMedia	Kauai, HI	\$24.0	12,000	\$2,065	8.6
Jul-97	Genesis Cable	McDonald Investment	Jackson Co., GA	\$45.0	21,000	\$2,035	8.9
Jul-97	G Force LLC	Rifkin & Associates	Kauai, HI	\$14.0	8,000	\$1,744	8.7
Jul-97	Fanch Communications	Leonard Communications	Hendricks, IN	\$6.0	5,000	\$1,328	7.7
Jul-97	Triax Midwest	Triax Association	Roselawn, IN	\$50.0	33,000	\$1,509	7.3
Aug-97	Mediacom	Cablevision	10 States	\$315.0	265,000	\$1,189	8.9
Aug-97	Jones Intercable	Jones Fund	Albuquerque, NM	\$223.0	113,000	\$1,977	8.6
Aug-97	Charter	Sonic	Logan, UT; Santa Cruz, San Luis Obispo, Riverbank, West Sacramento & Feather River, CA	\$183.0	117,000	\$1,562	8.0
Aug-97	FrontierVision	Cox	Cambridge, Coshocton, Newark, Marion, Logan & New Philadelphia, OH	\$144.0	85,000	\$1,694	9.0
Aug-97	Insight Communications	Cablevision	Rockford, IL	\$97.0	65,000	\$1,492	9.5

DATE	BUYER	SELLER	SYSTEMS	PRICE** (Mil.)	BASIC SUBS.	PRICE / SUB.***	CASH FLOW MULT.
Aug-97	Cox Communications*	Insight Communications*	Phoenix, AZ	\$77.0	36,000	\$2,131	9.1
Aug-97	Insight Communications*	Cox Communications*	Lafayette, IL	\$77.0	38,000	\$2,018	9.6
Aug-97	Genesis	Milestone	Hoke Co., NC	\$2.0	2,000	\$1,145	7.0
Sep-97	TCI/TW jv	TCI	TX	\$1,326.0	520,000	\$2,550	9.1
Sep-97	TCI/TW jv	TW	TX	\$1,176.0	510,000	\$2,306	12.5
Sep-97	TCI*	Time Warner*	IL; NJ; PA	\$360.0	170,000	\$2,118	10.3
Sep-97	Time Warner*	TCI*	FL	\$360.0	200,000	\$1,800	10.0
Sep-97	TCI*	Time Warner*	Portland, OR	\$270.0	126,000	\$2,143	10.2
Sep-97	Time Warner*	TCI*	HI; OH; NY	\$270.0	133,000	\$2,030	10.2
Sep-97	KC Cable	TCI	Overland, KS	\$258.0	93,000	\$2,777	12.3
Sep-97	TCI*	Time Warner*	TX	\$203.0	117,000	\$1,735	8.7
Sep-97	Time Warner*	TCI*	TX	\$203.0	126,000	\$1,607	8.2
Sep-97	TCI*	Time Warner*	IL	\$144.0	72,000	\$2,000	10.3
Sep-97	Time Warner*	TCI*	ME; WI	\$144.0	77,000	\$1,870	9.1
Sep-97	TCI*	Time Warner*	PA; WY; MO	\$80.0	55,000	\$1,455	8.1
Sep-97	Time Warner*	TCI*	NY	\$80.0	62,000	\$1,290	6.2
Sep-97	Bresnan/TCI jv	TCI	MN; MI; NE; WI	\$800.0	445,000	\$1,798	8.6
Sep-97	Prime Cable	SBC Corp.	VA; MD	\$637.0	268,000	\$2,377	8.2
Sep-97	Post Newsweek*	TCA Cable*	Blackwell, OK	\$28.0	17,000	\$1,679	8.9
Sep-97	TCA Cable*	Post Newsweek*	Lufkin, TX	\$28.0	16,000	\$1,819	8.9
Sep-97	MediaCom	Jones Fund 1B C	Clearlake, CA	\$21.0	17,000	\$1,237	7.4
			Total 01/97-9/97	\$13,199.0	6,949,300		
			Total 11/96-9/97	\$13,564.3	7,151,100		

NOTES:

* System swaps

** The transaction prices are from Kagan. The transaction price is dependent upon the terms of the each transaction and may or may not include debt.

*** The calculations of Price/(Basic)Subscriber are from Kagan. These calculations are stated to be subject to rounding and reporting inconsistencies.

(c) Indicates a "consummated transaction."

(jv) Indicates a joint venture.

SOURCES:

Paul Kagan Associates, Inc., *First-Half 1997 Cable System Sales*, Cable TV Finance, Jul. 31, 1997, at 8;

Paul Kagan Associates, Inc., *Announced/Proposed Cable System Sales*, Cable TV Investor, Dec. 3, 1996, at 11; Jan. 7, 1997, at 12; Feb. 24, 1997, at 14; Mar. 10, 1997, at 13; Apr. 30, 1997, at 11; May 20, 1997, at 14; Jul. 9, 1997, at 10; Aug. 22, 1997, at 8; Sep. 10, 1997, at 4; Oct. 9, 1997, at 14.

Kent Gibbons, Finance, *MSO's Clustering Efforts Extend Beyond Top 10*, Multichannel News, Sep. 1, 1997, at 31.

Regina Matthews, *System Sales*, Cable World, Sep. 1, 1997, at 28.

Regina Matthews, *Swaps and Partnerships*, Cable World, Aug. 25, 1997, at 45.

Mass Media Issues, Communications Daily, Sep. 25, 1997, at 5; Dec. 2, 1997, at 5.

Table F-1

MSO Ownership in National Programming Services

Programming Service	Launch Date	Ownership Percentage
Action Pay-Per-View	Sept-90	TCI (22)
AMC (American Movie Classics)	Oct-84	Cablevision Systems (75)
Animal Planet	Oct-96	TCI (49), Cox (24.5)
BET (Black Entertainment Television)	Jan-80	TCI (22)
BET on Jazz	Jan-96	TCI (22)
BET Movies	Feb-97	TCI (22)
The Box Worldwide	Dec-85	TCI (80)
Bravo	Feb-80	Cablevision Systems (50)
Cartoon Network	Oct-92	Time Warner (100)
Catalog 1	Apr-94	Time Warner (50)
Cinemax	Aug-80	Time Warner (100)
CNN	Jun-80	Time Warner (100)
CNNfn (The Financial Network)	Dec-95	Time Warner (100)
CNNI (formerly CNN International)	Jan-95	Time Warner (100)
CNN/SI	Dec-96	Time Warner (100)
Comedy Central	Apr-91	Time Warner (50)
Court TV	Jul-91	TCI (33.3), Time Warner (33.3)
Discovery Channel	Jun-85	TCI (49), Cox (24.5)
Discovery Civilization	Oct-96	TCI (49), Cox (24.5)
Discovery Kids	Oct-96	TCI (49), Cox (24.5)
Discovery Science	Oct-96	TCI (49), Cox (24.5)

Programming Service	Launch Date	Ownership Percentage
Discovery Travel and Living	Oct-96	TCI (49), Cox (24.5)
E! Entertainment	Jun-90	Comcast (34.5), Cox (10.4), MediaOne (10.4), TCI (10.4)
Encore	Jun-91	TCI (80)
Encore Love Stories	Jul-94	TCI (80)
Encore Westerns	Jul-94	TCI (80)
Encore Mysteries	Jul-94	TCI (80)
Encore Action	Sept-94	TCI (80)
Encore True Stories and Drama	Sept-94	TCI (80)
Encore WAM! America's Youth Network	Sept-94	TCI (80)
Fox Sports Americas (formerly Prime Deportiva)	Dec-93	TCI (25)
fX	Oct-94	TCI (50)
fXM: Movies from Fox	Nov-94	TCI (50)
GEMS International Television	Apr-93	Cox (50)
The Golf Channel	Jan-95	MediaOne (20.2)
Great American Country	Dec-95	Jones (89)
HBO (Home Box Office)	Nov-72	Time Warner (100)
HBO 2	Dec-75	Time Warner (100)
HBO 3	Oct-93	Time Warner (100)
Headline News	Jan-82	Time Warner (100)
Independent Film Channel	Sep-94	Cablevision Systems (75)
The International Channel	Jul-90	TCI (45)
Knowledge TV (formerly Mind Extension University)	Nov-87	Jones (89)
The Learning Channel	Nov-80	TCI (49) Cox (24.5)

Programming Service	Launch Date	Ownership Percentage
MuchMusic USA	Jul-94	Cablevision Systems (50)
Odyssey (formerly Faith and Values)	Oct-93	TCI (49)
Outdoor Life Network	Jul-95	Cox (45), Comcast (22.5), MediaOne (22.5)
Ovation: The Arts Network	Apr-96	Time Warner (50)
Prevue Channel	Jan-88	TCI (40.5)
Prime Network	Jan-93	TCI (33) Cablevision Sys. (25)
Product Information Network (PIN)	Apr-94	Cox (50)
QVC	Nov-86	Comcast (57) TCI (43)
Q2	Sept-94	Comcast (57) TCI (43)
Request Television	Nov-85	TCI (40)
Request 2	Jul-88	TCI (40)
Request 3-5	Sept-93	TCI (40)
Romance Classics	Jan-97	Cablevision Systems (75)
Speedvision	Dec-95	Cox (45), Comcast (22.5), MediaOne (22.5)
Starz! - encore 8	Feb-94	TCI (100)
Starz!2 - encore 8	Mar-96	TCI (100)
TBS	Dec-76	Time Warner (100)
TNT (Turner Network Television)	Oct-88	Time Warner (100)
The Travel Channel	Feb-87	TCI (34), Cox (17)
Turner Classic Movies	Apr-94	Time Warner (100)
TV Food Network (TVFN)	Nov-83	MediaOne (10), Cox (1.9)

Programming Service	Launch Date	Ownership Percentage
Viewers Choice	Nov-85	Cox (20), Time Warner (17), MediaOne (12), Comcast (11), TCI (10)
Viewers Choice: Hot Choice	Jun-86	Cox (20), Time Warner (17), MediaOne (12), Comcast (11), TCI (10)
Viewers Choice: Continuous Hits 1,2,3	Feb-93	Cox (20), Time Warner (17), MediaOne (12), Comcast (11), TCI (10)

Sources: NCTA Comments at Tbl. A3. EchoStar Reply Comments at Ownership Chart. NCTA, *National Video Services*, Cable Television Developments, Spring 1997, at 28-95. Paul Kagan Assocs., Inc., *Multiple Network Owners*, Cable TV Programming, May 31, 1997, at 2-5. TCI Shareholder Report, 1997, at 14-15. Jones Intercable Prospectus Supplement, August 1, 1997, at S-24. Merrill Lynch & Co. Investment Report for Cablevision Systems, June 12, 1997, at 4.

Table F-2

**Existing National Programming Services
Not Affiliated With a Cable Operator**

Programming Service	Launch Date
Adam & Eve Channel	Feb-94
Adultvision	Jul-95
All News Channel	Nov-89
America's Health Network	Mar-96
ANA Television Network	Dec-91
Arts & Entertainment (A&E)	Feb-84
Asian American Satellite TV	Jan-92
Bloomberg Information Television	Jan-95
CBS TeleNoticias	1997
CNET: The Computer Network	Jan-95
C-SPAN*	Mar-79
C-SPAN 2*	Jun-86
Cable Video Store	Apr-86
Canal Sur	Aug-91
Channel America Television Network	Jun-88
Children's Cable Network	May-95
Cine Latino	Dec-94 (in U.S.)
Classic Sports Network	May-95
Classic Arts Showcase	May-94
CMT: Country Music Television	Mar-83
CNBC	Apr-89
Consumer Resource Network	Dec-94
Crime Channel	Jul-93

Programming Service	Launch Date
Deep Dish TV	Jan-86
Disney Channel	Apr-83
The Ecology Channel	Nov-94
Employment Channel	Feb-92
ESPN	Sep-79
ESPN2	Oct-93
ESPNEWS	Nov-96
Ethnic-American Broadcasting Co.	1992
EWTN: Global Catholic Network	Aug-81
Eye on People	Mar-97
The Family Channel	Apr-77
Fashion Network	Jul-96
The Filipino Channel	Apr-91
FiT TV	Dec-93
Flix	Aug-92
Foxnet	Jul-91
Fox News Channel (FNC)	Oct-96
Galavision	Oct-79
Game Show Network	Dec-94
Gay Entertainment Television	Nov 95
The History Channel	Jan-95
Home & Garden Television	Dec-94
Home Shopping Network**	Jul-85
Home Shopping (Spree!)**	Sept-86
HTV	Aug-95
The Inspirational Network (INSP)	Apr-78

Programming Service	Launch Date
Jackpot Channel	Oct-96
Jewish Television Network	1981
Kaleidoscope	Sep-90
Ladbroke Racing Channel	Nov-84
Las Vegas Television Network	Nov-91
Lifetime Television	Feb-84
The Movie Channel (TMC)	Dec-79
Mor Music TV	Aug-92
MSNBC	Jul-96
MTV: Music Television	Aug-81
MTV Networks Latin America (formerly MTV Latino)	Oct-93
M2: Music Television	Aug-96
The Music Zone	Apr-95
My Pet TV	Sep-96
NASA Television	Jul-91
National & International Singles Television Network	Apr-95
NBC News Channel (formerly Canal de Noticias NBC)	Mar-93
NET - Political NewsTalk Network	Dec-93
Network One	Dec-93
Newsworld International	Sep-94
Nickelodeon/Nick at Nite	Apr-79
Nick at Nite's TV Land	Apr-96
Nostalgia Channel	Feb-85
Outdoor Channel	Apr-93
Planet Central Television	May-95
Playboy TV	Nov-82

Programming Service	Launch Date
Praise Television	Dec-96
The Recovery Network	Feb-97
Sci-Fi Channel**	Sept-92
SCOLA	Aug-87
Shop at Home	Jun-86
Showtime	Jul-76
SingleVision	Jun-94
Spice	May-89
Student Film Network	Nov-94
Sundance Channel	Feb-96
Telemundo	Jan-87
TNN: The Nashville Network	Mar-83
Total Communications Network	Nov-95
Trinity Broadcasting Network	Apr-78
TRIO	Sep-94
Tropical Television Network	Aug-96
TV Asia	Apr-93
TV Japan	Jul-91
U Network	Oct-89
Univision	Sep-76
USA Network**	Apr-80
ValueVision	Oct-91
VH-1	Jan-85
Via TV Network	Aug-93
Video Catalog Channel	Oct-91
The Weather Channel	May-82
WorldJazz	Jul-95

Programming Service	Launch Date
The Worship Network	Sep-92
Z Music	Mar-93

* Currently, there are no MSO ownership interests in C-SPAN and C-SPAN 2. However, several MSOs provide funding to C-SPAN and are represented on the board of directors as voting members.

** TCI (Liberty Media) will reportedly have a 15% non-voting interest if the announced merger with Home Shopping Network is completed. (See Chris Parkes, *HSN in \$5bn Universal Studios Deal*, Financial Times, Oct. 21, 1997, at 19.)

Sources: NCTA Comments at Tbl. A4. EchoStar Reply Comments at Ownership Chart. National Cable Television Assoc., Inc., *National Video Services*, Cable Television Developments, Spring 1997, at 28-95. Paul Kagan Assocs., *Multiple Network Owners*, Cable TV Programming, May 31, 1997, at 2-5. TCI Shareholder Report, 1997, at 14-15. Jones Intercable Prospectus Supplement, August 1, 1997, at S-24. Merrill Lynch & Co. Investment Report for Cablevision Systems, June 12, 1997, at 4.

TABLE F-3

**Planned National Programming
Services Affiliated With a Cable Operator**

Programming Service	MSO Affiliation	Expected Launch Date
American Sports Classics	Cablevision Systems	TBA
BBC America	TCI, Cox	Early 1998
International Channel Networks	Encore Media Group, International Media Group	End of 1997
The Parents Channel	Malofilm Communications	TBA
World African Network	Time Warner	1998

* "Ownership Interest" refers to a 5% or greater interest in the programming service.

TBA - To Be Announced.

Sources: National Cable Television Assoc., *Planned Services*, Cable Television Developments, Spring 1997, at 124-137. *1997 Programming Guide*, Private Cable & Wireless Cable, May 1997, at A1. Kim McAvoy and Carolyn West, *Cable's Contenders*, Broadcasting & Cable, May 12, 1997, at 63. *Database*, Cablevision, Oct. 6, 1996, at 46.

TABLE F-4

**Planned National Programming Services
Unaffiliated With a Cable Operator**

Programming Service	Expected Launch Date
The ABZ Channel	Early 1998
Air & Space Network	TBA
American Legal Network	TBA
American Political Channel	TBA
American West Network	TBA
Anthropology Programming and Entertainment	Early 1998
Anti-Aging Network	TBA
Applause Networks	1998
Arena - The Classic Music Channel	TBA
Arts & Antiques Network	TBA
The Auto Channel	December 1997
Automotive Television Network	TBA
The B-Movie Network	1998
The Benefit Network	1998
The Biography Channel	TBA
Black Women's TV	TBA
Boating Channel	TBA
Booknet	TBA
Career & Education Opportunity Network	March 1998
Catalogue TV	TBA
Celtic Vision	1998
CEO Channel	TBA
Channel 500	TBA
Chop TV	TBA

Programming Service	Expected Launch Date
Collectors Channel	Mid 1998
Computer Shopping Channel	TBA
Conservative Television Network	TBA
The Creative Channel	TBA
The Enrichment Channel	TBA
FAD TV (Fashion & Design Television)	1997
Fashion Network	TBA
Fitness Interactive	4th Qtr 1997
The Football Channel	1998
GETv Network	TBA
Global Village Network	TBA
Golden American Network	4th Qtr 1997
The Gospel Network	1997
Hobby Craft Network	TBA
Home Improvement TV Network	TBA
Jock Talk TV	1997
Little Leaguers Sports/News Network	TBA
The Love Network	December 1997
M1 - The Museum Channel	TBA
The MBC Movie Channel	TBA
Martial Arts Network	1998
The Military Channel	1st Qtr 1998
NationTalk	TBA
Native American Nations Program Network	TBA
New Science Network	1997
Oasis TV	TBA
Orb TV	1998
The Outlet Mall Network	1997

Programming Service	Expected Launch Date
Parent Television	4th Qtr 1998
Parenting Satellite Television Network	1st Qtr 1998
Performance Showcase	4th Qtr 1997
The Pet Television Network	TBA
Premiere Horse Network	1st Qtr 1998
Prime Life Network	1998
Real Estate Network	TBA
Seminar TV Network	February 1998
Sewing and Needle Arts Network	TBA
Soap Channel	TBA
Space Television Network	TBA
The Success Channel	TBA
Talk TV Network	1998
The Technology Channel	TBA
The Theater Channel	4th Qtr 1997
Therapy Channel Network	TBA
Toon Disney	April 1998
TRAX Television Network	TBA
TV Games Network	4th Qtr 1998
ZDTV: Your Computer Channel	1st Qtr 1998

TBA - To Be Announced.

Sources: National Cable Television Assoc., *Planned Services*, Cable Television Developments, Spring 1997, at 124-137. *1997 Programming Guide*, Private Cable & Wireless Cable, May 1997, at A1. Kim McAvoy and Carolyn West, *Cable's Contenders*, Broadcasting & Cable, May 12, 1997, at 63. *Database*, Cablevision, Oct. 6, 1996, at 46.

TABLE F-5

**Top Eight MSO Ownership in National Programming,
MSO Rank in Order by Subscribers**

Services	Subs. (Mil.)	TCI	Time Warner	Media One	Comcast	Cox	Cable- vision Systems	Adelphia	Jones Cable
Action Pay- Per-View	8.0	22%							
AMC	67.0						75%		
Animal Planet	27.6	49%				24.5%			
BET	51.6	22%							
BET on Jazz	2.5	22%							
BET Movies	.3	22%							
The Box Worldwide	24.5	80%							
Bravo	30.0						50%		
Cartoon Network 1/	45.8		100%						
Catalog 1	*		50%						
Cinemax	8.9		100%						
CNN 1/	72.4		100%						
CNNfn - The Financial Network 1/	8.4		100%						
CNNI 1/	6.5		100%						
CNN/SI	.6		100%						
Comedy Central	45.3		50%						
Court TV	32.4	33.3%	33.3%						
Discovery Channel	72.7	49%				24.5%			

Services	Subs. (Mil.)	TCI	Time Warner	Media One	Comcast	Cox	Cable- vision Systems	Adelphia	Jones Cable
Discovery Civilization	*	49%				24.5%			
Discovery Kids	*	49%				24.5%			
Discovery Science	*	49%				24.5%			
Discovery Travel and Living	*	49%				24.5%			
E!	46.0	10.4%		10.4%	34.5%	10.4%			
Encore	10.0	80%							
Encore Love Stories	12.0	80%							
Encore Westerns	**	80%							
Encore Mysteries	**	80%							
Encore Action	**	80%							
Encore True Stories	**	80%							
Encore WAM!	**	80%							
Fox Sports Americas	3.7	25%							
fX	32.7	50%							
fXM: Movies from Fox	5.3	50%							
GEMS International Television	6.0					50%			

Services	Subs. (Mil.)	TCI	Time Warner	Media One	Comcast	Cox	Cable-vision Systems	Adelphia	Jones Cable
The Golf Channel	11.0			20.2%					
Great American Country	1.2								89%
HBO	20.8		100%						
HBO 2	*		100%						
HBO 3	*		100%						
Headline News 1/	66.9		100%						
Independent Film Channel	8.0						75%		
International Channel	7.4	45%							
Knowledge TV	26.0								89%
Learning Channel	61.2	49%				24.5%			
MuchMusic	9.2						50%		
Odyssey	30.9	49%							
Outdoor Life	8.0			22.5%	22.5%	45%			
Ovation	3.0		50%						
Prevue Channel	49.8	40.5%							
Prime Network	50.8	33%					25%		
Product Information Network	8.0					50%			

Services	Subs. (Mil.)	TCI	Time Warner	Media One	Comcast	Cox	Cable- vision Systems	Adelphia	Jones Cable
QVC	63.0	43%			57%				
Q2	10.9	43%			57%				
Request Television: Request 1	35.0	40%							
Request Television: Request 2	*	40%							
Request Television 3-5	*	40%							
Romance Classics	8.0						75%		
Speedvision	11.0			22.5%	22.5%	45%			
Starz!	4.8	100%							
Starz!2	*	100%							
TBS 1/	71.6		100%						
TNT 1/	72.3		100%						
The Travel Channel	20.5	34%				17%			
Turner Classic Movies 1/	18.3		100%						
TV Food Network 2/	27.7			10%		1.9%			

Services	Subs. (Mil.)	TCI	Time Warner	Media One	Comcast	Cox	Cablevision Systems	Adelphia	Jones Cable
Viewers Choice	38.0	10%	17%	12%	11%	20%			
Viewers Choice: Hot Choice	***	10%	17%	12%	11%	20%			
Viewers Choice: Continuous Hits 1, 2, 3	***	10%	17%	12%	11%	20%			

Sources:

Sources for subscriber counts: Paul Kagan Assocs., Inc., *September 30 Network Census*, Cable TV Programming, Oct. 31, 1997, at 12. National Cable Television Assoc, *National Video Services*, Cable Television Developments, Spring 1997, at 28-95. Sources for ownership percentages: Paul Kagan Assocs., Inc., *Multiple Network Owners*, Cable TV Programming, May 31, 1997, at 2-5. EchoStar Reply Comments at Ownership Chart. TCI Shareholder Report, 1997, at 14-15. Jones Intercable Prospectus Supplement, Aug. 1, 1997, at S-24. Merrill Lynch & Co. Investment Report for Cablevision Systems, Jun. 12, 1997, at 4. Ownership interests reported for earlier periods may not reflect current ownership.

Notes:

- * Indicates subscriber amount is not available.
 - ** Subscribership of 12.0 million includes all of Encore's six Thematic Multiplex channels (See National Cable Television Assoc., Cable Television Developments, Spring 1997, at 48).
 - *** Subscribership of 16.0 million includes all six Viewers Choice channels (See National Cable Television Assoc., Cable Television Developments, Spring 1997, at 92).
- 1/ Previously a Turner Broadcasting programming service.
 - 2/ Scripps Howard has a majority interest in TV Food Network. See *Mass Media* Comm. Daily, Sept. 5, 1997. Others having less than 5% interest are Adelphia Communications, Times Mirror and C-TEC.

TABLE F-6

**Top 50 Programming
Services by Subscribership**

Rank	Programming Network (Top 50)	Number of Subscribers (Millions) ¹	MSO Ownership Interest in Network
1	TBS	73.2	Time Warner (100%)
2	ESPN	72.9	None
3	The Discovery Channel	72.7	TCI (49%), Cox (24.5%)
4	USA	72.5	None
5	CNN	72.4	Time Warner (100%)
6	TNT	72.3	Time Warner (100%)
7	C-SPAN	71.8	None ²
8	Nickelodeon/Nick at Nite	71.3	None
9	The Family Channel	70.9	None
10	TNN (The Nashville Network)	70.6	None
11	Arts & Entertainment (A&E)	70.2	None
12	Lifetime Television	69.6	None
13	The Weather Channel	68.8	None
14	MTV	68.0	None
15	AMC (American Movie Classics)	67.0	Cablevision Systems (75%)
16	Headline News	66.9	Time Warner (100%)
17	CNBC	63.4	None
18	QVC	63.0	Comcast (57%), TCI (43%)

¹For services offered on a per channel basis, the number of subscribers represents the number of units paying for the individual programming service. For other programming services, the number of subscribers represents the number of cable subscribers to whom the service is available on a programming tier.

²Cable affiliates provide 95% of funding for C-SPAN and C-SPAN II, but have no ownership or program control interests. *NCTA Comments*, at Tbl. A1. DBS licensees provide the other 5% of funding and also have no ownership or program control interests.

Rank	Programming Network (Top 50)	Number of Subscribers (Millions)	MSO Ownership Interest in Network
19	The Learning Channel (TLC)	61.2	TCI (49%), Cox (24.5%)
20	VH-1	60.1	None
21	Home Shopping Network	54.4	None
22	ESPN2	51.8	None
23	BET	51.6	TCI (22%)
24	Prevue Channel	49.8	TCI (40.5%)
25	C-SPAN II	48.4	None
26	E! Entertainment	46.0	Comcast (34.5), Cox (10.4), Media One (10.4), TCI (10.4)
27	Sci-Fi Channel	46.0	None
28	Cartoon Network	45.8	Time Warner (100)
29	Comedy Central	45.3	Time Warner (50)
30	The History Channel	42.5	None
31	CMT: Country Music Television	41.7	None
32	MSNBC	38.0	None
33	fX	32.7	TCI (50)
34	Court TV	32.4	TCI (33.3), Time Warner (33.3)
35	Disney Channel	31.0	None
36	Odyssey (formerly Faith and Values)	30.9	TCI (49)
37	Bravo	30.0	Cablevision Systems (50)
38	TV Food Network	27.7	MediaOne (10), Cox (1.9)
39	Animal Planet	27.6	TCI (49), Cox (24.5)
40	Knowledge TV	26.0	Jones (89)
41	The Box Worldwide	24.5	TCI (80)
42	Fox News Channel	23.0	None
43	The Travel Channel	20.5	TCI (34), Cox (17)

Rank	Programming Network (Top 50)	Number of Subscribers (Millions)	MSO Ownership Interest in Network
44	Nick at Nite's TV Land	19.6	None
45	Turner Classic Movies	18.3	Time Warner (100)
46	The Inspiration Network	11.2	None
47	The Golf Channel	11.0	MediaOne (20.2)
48	Speedvision	11.0	Cox (45), Comcast (22.5), MediaOne (22.5)
49	Q2	10.9	Comcast (57), TCI (43)
50	Classic Sports Network	10.4	None

* Superstations included in the source data are not included in this ranking.

Source: Paul Kagan Assocs., Inc., *September 30 Network Census*, Cable TV Programming, Oct. 31, 1997, at 12.

TABLE F-7

**Top 15 Programming Services
by Prime Time Rating***

Rank	Programming Service	MSO with Ownership Interest
1	TNT	Time Warner (100%)
2	Nickelodeon/Nick at Nite	None
3	TBS	Time Warner (100%)
4	USA Network	None
5	Lifetime Television	None
6	Arts & Entertainment (A&E)	None
7	ESPN	None
8	The Discovery Channel	TCI (49%), Cox (24.5%)
9	The Cartoon Network	Time Warner (100%)
10	The Family Channel	None
11	TNN (The Nashville Network)	None
12	CNN	Time Warner (100%)
13	Sci-Fi Channel	None
14	The Learning Channel	TCI (49%), Cox (24.5%)
15	fX	TCI (50%)

* Superstations included in the source data are not included in this ranking.

Source: Paul Kagan Assocs., Inc., *Second Quarter 1997 Prime-Time Ratings*, Cable TV Programming, Aug. 31, 1997, at 6.

APPENDIX G

Program Access Matters Resolved

1. In a program access complaint decided in 1997, Cross Country Cable, Inc. ("Cross Country") alleged that C-TEC Cable Systems of Michigan, Inc. ("C-TEC") violated both the geographic uniformity requirement and the program access provisions of the Communications Act.¹ Cross Country alleged that C-TEC provided cable service in Cross Country's franchise area, and that discounts offered to subscribers by C-TEC resulted in non-uniform pricing and impeded Cross Country's ability to provide satellite cable programming to consumers. The Cable Services Bureau ("Bureau") found that C-TEC was subject to effective competition in the area at issue and therefore the uniform rate requirement did not apply to C-TEC. The Bureau denied the program access complaint, finding that Cross Country had not made a showing that the discount was an unfair method of competition or deceptive practice that prevented the distribution of programming.

2. In a program access complaint dismissed in 1997, OpTel, Inc. ("OpTel") alleged that Continental denied OpTel access to Prime Ticket programming services pursuant to an exclusivity agreement that was not grandfathered pursuant to 47 U.S.C. § 548(h) and 47 C.F.R. § 76.1002(e).² In the alternative, OpTel claimed that Continental unreasonably refused to sell programming to OpTel in violation of 47 U.S.C. § 548(c)(2)(B). Subsequent to the complaint, Continental waived its exclusive right to Prime Ticket's programming with respect to all other multichannel video programming distributors, including, but not limited to, OpTel. OpTel and Continental then filed a joint stipulation for dismissal, in which they requested that the Bureau dismiss OpTel's complaint with prejudice and without costs. The Bureau dismissed the proceeding pursuant to the joint stipulation for dismissal.

3. In 1997, Corporate Media Partners d/b/a Americast ("Americast") and Ameritech filed an Application for Review of a program access complaint involving exclusivity that was decided in 1996.³ In the 1996 complaint, Americast and Ameritech alleged that they had been denied access to HBO programming as a result of Continental's and HBO's exclusive contract. In denying the complaint, the Bureau concluded that parties to an exclusive contract may enforce an exclusivity provision with respect to newly-acquired systems, where the contract included an after-acquired systems provision that was made part of the contract prior to June 1, 1990. The Commission affirmed the conclusions of the Bureau, and denied the Application for Review.⁴

¹*Cross Country Cable, Inc. v. C-TEC Cable Systems of Michigan, Inc.*, Order, 12 FCC 2538 (CSB 1997).

²*OpTel, Inc. v. American Cablesystems of California, Inc., d/b/a/ Continental Cablevision, Inc.*, Order, 12 FCC Rcd 2559 (CSB 1997).

³*Corporate Media Partners d/b/a/ Americast and Ameritech New Media, Inc. v. Continental Cablevision, Inc., and Home Box Office*, Order, 11 FCC Rcd 7735 (CSB 1996).

⁴*Corporate Media Partners d/b/a/ Americast and Ameritech New Media, Inc. v. Continental Cablevision, Inc.*, Memorandum Opinion and Order, 12 FCC Rcd 3455 (rel. March 17, 1997).

4. RCN Telecom Services of Massachusetts, Inc. ("RCN") moved to withdraw its Petition For Partial Reconsideration and Request for Expedited Decision ("Petition") of *Interface Communications Group, Inc., Digital Broadband Applications Corp. and RCN v. Cablevision Systems Corp., Rainbow Programming Holdings, Inc. and American Movie Classics Company*, and requested that the Petition be dismissed with prejudice. In its Petition, RCN stated that it had been afforded access to the programming at issue in the proceeding. The Bureau dismissed the complaint with prejudice.⁵

5. Bell Atlantic Video Services Company ("BVS") filed a program access complaint against Rainbow Programming Holdings, Inc. ("Rainbow") and Cablevision alleging discrimination by Rainbow in the sale of satellite cable programming and the exercise of undue influence by Cablevision in violation of Sections 628(b) and (c) of the Communications Act, and Section 76.1002 of the Commission's rules. The Bureau found that Rainbow discriminated against BVS in the sale of satellite video programming in violation of Sections 628(c)(2)(B) of the Communications Act, and Section 76.1002 of the Commission's rules.⁶ The Bureau did not address BVS's claim that Cablevision had exercised undue influence over Rainbow or whether Rainbow's actions constituted unfair methods of competition.

6. In a program access complaint dismissed in 1997, British American Communications, Inc. ("BAC") alleged that Prime Ticket Network, et al., denied BAC access to Prime Ticket programming services pursuant to an exclusivity agreement that was not grandfathered pursuant to 47 U.S.C. § 548(h) and 47 C.F.R. § 76.1002(e). In the alternative, BAC claimed that Prime Ticket unreasonably refused to sell programming to BAC in violation of 47 U.S.C. § 548(c)(2)(B) and 47 C.F.R. § 76.1002(b). Subsequent to the complaint, the Trustee for Prime Ticket and BAC entered into an agreement pursuant to which BAC would be able to distribute Prime Ticket's programming in certain of BAC's systems. BAC and Prime Ticket, et al., then filed a joint stipulation for dismissal, in which they requested that the Bureau dismiss the complaint with prejudice. The Bureau dismissed the proceeding pursuant to the joint stipulation for dismissal.⁷

7. Americast and Ameritech filed a program access complaint pursuant to 47 U.S.C. §§ 548(b) and 548(c)(2)(B) and 47 C.F.R. § 76.1002(b) alleging that Rainbow engaged in price discrimination and discrimination in marketing requirements and other terms and conditions in agreements between Rainbow and Americast. Rainbow answered denying discrimination and asking that the complaint be dismissed with prejudice. Americast and Ameritech replied asking for relief without further fact-finding or procedural steps. The Bureau granted the complaint with respect to claims of price discrimination and discrimination in

⁵*Interface Communications Group, Inc., Digital Broadband Applications Corp. and RCN v. Cablevision Systems Corp., Rainbow Programming Holdings, Inc. and American Movie Classics Company*, Order, 12 FCC Rcd 6052 (CSB 1997).

⁶*Bell Atlantic Video Services Company v. Rainbow Programming Holdings, Inc. and Cablevision Systems Corporation*, Order, 12 FCC Rcd 9892 (CSB 1997).

⁷*British American Communications, Inc. v. Prime Ticket Network, et al.*, Order, 12 FCC Rcd 10284 (CSB 1997).

marketing requirements and dismissed the complaint with respect to claims of discrimination in other terms and conditions.⁸

8. In a program access complaint dismissed in 1997, Wizard Programming, Inc. ("Wizard") alleged that Superstar/Netlink Group, L.L.C. ("SNG") and TCI engaged in unfair methods of competition or unfair or deceptive acts or practices in the sale of satellite broadcast programming in violation of Section 628(b) of the Communications Act.⁹ Wizard claimed that SNG has discriminated against Wizard in the prices, terms, and conditions of sale or delivery of programming in violation of Section 76.1002(b) of the Commission's rules.¹⁰ Wizard named TCI as a co-defendant based on TCI's alleged indirect ownership interest in SNG and claimed that TCI has unduly and improperly influenced the acts of SNG in violation of Section 76.1002(a) of the Commission's rules. The Bureau dismissed the claim with prejudice, finding that Wizard did not show that it had standing to bring a program access complaint.

⁸*Corporate Media Partners d/b/a/ Americast and Ameritech New Media, Inc. v. Rainbow Property Holdings, Inc.*, Order, DA 97-2040 (rel. Sept. 23, 1997).

⁹*Wizard Programming, Inc. v. Superstar/Netlink Group, L.L.C. and Tele-Communications, Inc.*, Order, DA 97-2693 (rel. Dec. 24, 1997).

¹⁰47 C.F.R. § 76.1002(b); *see* Communications Act § 628(c)(2)(B), 47 U.S.C. § 548(c)(2)(B).

SEPARATE STATEMENT OF CHAIRMAN WILLIAM E. KENNARD*In the Matter of Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*

When Congress passed the Telecommunications Act of 1996, it mandated the sunset of cable rate regulation on March 31, 1999 for all but the basic service tier.¹ Congress predicted that in another three years, cable rate regulation would be a relic of a bygone era. Seemingly major legal barriers to competition were removed. An alphabet soup of new entrants -- RBOCs, DBS, MMDS, SMATV -- seemed poised to compete aggressively in the multichannel marketplace. Policymakers heralded the dawn of significant new competition to cable television, and the American people were promised lower prices and more competitive alternatives.

But less than 15 months away from the sunset of most cable rate regulation, it is clear that broad-based, widespread competition to the cable industry has not developed and is not imminent. Eighty-seven percent of those who subscribe to multichannel video programming receive service from their local cable operator. While this is certainly an improvement from the Commission's first report in 1994, it is largely attributable to the growth of direct broadcast satellite services (DBS). DBS, however, remains primarily a high-end product or a way to receive multichannel video service in areas cable does not reach. And while at least one local exchange carrier is beginning to provide cable service, telephone companies have not, on the whole, entered video markets on a widespread basis.

Rates for regulated cable programming and equipment rose 8.5% in the 12-month period ending July, 1997. Although increased prices have been accompanied by additional programming, consumers have no real opportunity to choose a range of programming at varying prices. Our Report indicates that the presence of true, head-to-head competition to cable has a substantial downward effect on cable rates.

¹1996 Act, § 301(b)(2), codified at 47 U.S.C. § 543(d).

Prices, not surprisingly, appear lower where there is competition than where there is none. But the much anticipated competition has yet to arrive.

The loser is the American public. They must pay the higher cable prices yet they have few competitive choices. Policymakers should no longer have high hopes that a vigorous and widespread competitive environment will magically emerge in the next several months to reverse the troubling increase in cable rates. I fear it will not.

Although the Communications Act mandates that we substantially loosen rate controls next year, there are actions we have taken, and some we can take in the interim, that can foster more competition. We recently proposed ways to improve the effectiveness of our program access rules. New entrants seeking to compete against incumbents must have a fair opportunity to obtain and market programming, and the Commission's program access rules must be enforced swiftly and effectively. Today's Report notes our preemption of undue limitations on a viewer's ability to install dishes and antennas on property they own and control. It describes our new rules giving certainty to alternative video distributors with respect to their right to use wiring installed by the incumbent cable operator in apartment buildings and other multiunit dwellings, and our provision for the rollout of digital television. These are valuable contributions toward competition.

Still, when confronted with allegations of price gouging, cable operators reflexively point to additional programming costs. The Commission's own rules and policies may be a source of this problem. We need to examine whether there are targeted adjustments that should be made to our rate rules. For example, our rules allow programming cost increases to be passed on to subscribers. But is this right? Should the consumer shoulder all the increased costs of programming, instead of sharing these costs among other revenue sources, such as advertising, commissions, and in some circumstances, payments from

programmers themselves, especially where these other revenue streams may have grown since the benchmark rates were set?

Moreover, there are affiliations between cable operators and those who create and sell programming that add complexity to analyzing rates. I am therefore directing the Cable Services Bureau to commence a focused inquiry into programming costs to determine the sources of these increases, the variance in costs among various distributors, whether existing relationships impact the prices charged, and if programmers restrict consumer choice. This inquiry will require the cooperation and forthrightness of the industry.

We will also pursue the cable industry's own suggestion,² that we explore ways that the cable industry can provide consumers a wider range of choice in programming and prices, such that a consumer need not purchase programming that he or she does not want to watch. I look forward to the industry's recommendations in this regard. I am interested in examining the extent to which programmers restrict the cable operator's ability to market their programming, such as by requiring that programming be placed on a particular tier with other programming. Further, are most cable systems technically equipped to offer more customized programming packages, or would customization require settop boxes and other equipment, the cost of which would nullify the gains?

I am also instructing the Bureau to renew its enforcement efforts, giving particular emphasis and scrutiny not only to operators that do not commit an entire rate increase to the consumer's benefit, but also to examining closely all revenue received by the cable operator and the impact on the rate charged.

I also intend to ensure that the Commission concludes its rulemaking with respect to the state of horizontal concentration in the cable industry and its effects on competition. We must finish carrying out

² See remarks of Decker Anstrom, President and Chief Executive Officer, National Cable Television Association, at en banc presentation on the Status of Competition in the Multichannel Video Industry, Federal Communications Commission, December 18, 1997.

the law's requirement that we analyze the industry in this regard and put in place rules to restrain any anticompetitive effects of excessive concentration.

There are areas where enhanced competitive opportunities depend more upon changes in the law than on additional regulatory action. Direct broadcast satellite providers are largely prohibited from carrying local broadcast signals. Moreover, in obtaining the rights to network broadcast programming, DBS operators must pay more in copyright fees than cable pays for the same programming. With respect to program access, there is significant debate regarding our statutory authority, even where programming is unfairly or anticompetitively withheld from distribution in a way that frustrates the growth of competition. Further, competition in apartment buildings is limited because our statutory authority to allow use of the transmission wires by competitors extends only to circumstances where the incumbent has lost its right to remain in a building. Tenants would see more choice and better prices if an incumbent faced a competitive environment sooner. Similarly, dependent upon the outcome of a pending proceeding, the right of access by apartment dwellers and others to competitive video providers should be examined.

I would like to work with the Congress to evaluate these and other statutory proposals to eliminate barriers to competition. Congress is the final judge of the wisdom of proposals such as these. But I hope that the Commission will be called upon to assist Congress in assessing these legislative proposals.

Maintaining regulation as a surrogate for competition, and only until such time as competition arrives, is consistent with the historical underpinnings of federal regulation of cable television³ and reaffirmed by the Telecommunications Act of 1996.⁴ Yet I do not believe that, come March 1999, the consumer will be able to rely on a competitive market to ensure reasonable prices and choice. Therefore, I

³ 47 U.S.C. § 521(6), 47 U.S.C. § 543(a)(2).

⁴ Joint Statement of Managers, S. Conf. Rep. No. 104-230, 104th Cong. 2d Sess. 1 (1996).

look forward to pursuing the initiatives I have described above to give the American public as much choice and value as can be achieved in the market that today's Report describes.

**Statement
of
Commissioner Susan Ness**

Re: Video Competition Report

The Fourth Report to Congress provides both good news and bad news for advocates of robust multichannel video competition. It concludes that competition is developing but is not as vibrant as we had hoped it would be by now. Direct Broadcast Service (DBS) and other competitors have made solid gains in subscribership, but their presence has not been felt broadly enough to hold the line on cable television rates.

Where telephone companies have overbuilt cable systems, prices generally have been driven down. The emergence of wire-based competitors is important since DBS is not a perfect substitute to cable service, limited by its present inability to deliver local signals, significant fees for service to additional TV sets, and upfront equipment costs.

Consumers continue to be pinched by double digit rate increases in many -- but not all -- systems. Some cable rate hikes may legitimately be attributed to added channels that viewers want, infrastructure upgrades, and improvements in customer service. But cable companies imposing major rate increases need to be sensitive to the value customers place on additional channels or upgrades, weighed against the additional cost of service.

The skyrocketing cost of programming -- especially sports programming -- poses a new set of issues.

First, I am increasingly concerned about the lack of program packaging choices available to subscribers. Today, all subscribers who want more than a basic package are forced to share the high cost of sports programming whether they watch it or not. It is time to weigh the pros and cons of cable tiering, with a view towards increasing the options without diminishing the ability of new networks to gain critical exposure. Second, since networks have the dual revenue stream of advertising support and distribution fees, are advertisers bearing at least the same proportion of increased programming costs as are captive subscribers? Third, the substantial interlocking collaborations among a handful of giant media companies, characterized so vividly as "American Keiretsu" by Ken Auletta,¹ warrant attention to ensure that market power does not result in abuse.

The marketplace of ideas should function just as other competitive product markets do. Market failure may occur when consumers do not have an effective alternative to their cable provider, or it may occur when a bottleneck develops in the programming distribution chain so that viewers are denied access to independent voices that would be heard in a competitive market. Cable television and other multichannel video systems provide enormous service to the American public. We must be vigilant, however, to ensure that market power does not impair consumer access to these valued services.

¹ Auletta, *The Next Corporate Order: American Keiretsu*, The New Yorker, October 20 and 27, 1997, at 225.

SEPARATE STATEMENT OF COMMISSIONER HAROLD W. FURCHTGOTT-ROTH

In re: Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming

I am pleased to join in today's action, the issuance of the Commission's Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming.

I believe that the report does a fine job of detailing for Congress the current state of competitive affairs in the video delivery industries, as required by section 628(g) of the Communications Act. I wish to make clear that while I therefore support the report generally, I do not endorse the specific legislative proposals, save those based on section 713(f) of the Act, that it contains.

SEPARATE STATEMENT OF COMMISSIONER GLORIA TRISTANI*In the Matter of Annual Assessment of the Status of Competition
in Markets for the Delivery of Video Programming*

Much in this year's *Report* on the status of multichannel video competition has a familiar ring: there are pockets of head-to-head competition to cable, and some additional gains by DBS, but overall the cable industry retains its overwhelming dominance. Cable still controls 87% of multichannel video programming subscribers nationwide. All of cable's competitors -- e.g., DBS, MMDS, SMATV, HSD -- account for only 13% combined. Perhaps the most troubling aspect of these figures is that they do not reflect any quickening in the pace of competition. This year's modest 2% drop in the percentage of multichannel video subscribers controlled by cable was similar to the reductions tracked in the Commission's reports for 1994, 1995 and 1996.

This is not the dramatic change in the competitive landscape that was hoped for and expected with the passage of the Telecommunications Act of 1996. In particular, the 1996 Act freed telephone companies to compete head-to-head with cable operators in their telephone service areas. It was expected that telephone companies would seize the opportunity to enter the video market and provide consumers with a real alternative to the incumbent cable operator. But, with a few exceptions, this type of broad-based entry has yet to occur and there is little evidence that such competition is in the offing. To the contrary, some telephone companies seem to be actively withdrawing from previous efforts to explore full-scale entry into the video marketplace.

I am not convinced that DBS can fill that competitive vacuum. First, of course, DBS services do not carry local broadcast stations. Second, the current "up front" costs associated with DBS are substantial and place it out of reach for many Americans. As the *Report* indicates, the up front costs for DBS equipment and installation can amount to several hundred dollars. Moreover, in order to receive service on more than one television set -- not an unreasonable assumption in most homes -- a consumer must incur an additional substantial equipment charge and a monthly charge for each additional set. Because it fails to adequately reflect these costs, I expressly do not join in the comparison of cable and DBS prices in paragraphs 39-42 of the *Report*. While the comparisons do include a DBS equipment cost of \$200, the *Report* spreads that cost over a five-year period without any adjustment for the fact that these costs must be paid in advance. And while the *Report* does note that installation costs and the costs of providing service to additional sets should be considered, I believe that omitting any numerical analysis renders the comparisons virtually meaningless. Consumers cannot assume away up front costs, or spread out such costs over five years interest-free. Consumers do not want to know whether it is possible to construct cable and DBS packages with similar per channel costs. They want to know how much each service is going to cost them and when. The comparison of cable and DBS prices would have been far more helpful had it attempted to answer that question.

My concerns about concentration in the video programming distribution marketplace also apply to concentration within the cable industry itself. Since 1990, the top MSO's percentage of cable subscribers has risen from 24% to 29.3%; during that period, the percentage claimed by the top four MSOs combined has risen from 45.6% to 62.3%. Even these figures may not reflect the entire story. As detailed in the

Report, some of the largest MSOs are entering into joint ventures and other business arrangements with each other on an unprecedented scale. None of these transactions are at issue here and I express no opinion on their respective merits. I do believe, however, that the Commission owes it to the parties and to the public to remove the current confusion surrounding our horizontal ownership rules as soon as possible. As the *Report* notes, those rules were voluntarily stayed in October 1993 in light of the D.C. district court's decision that the 1992 Cable Act's horizontal ownership provisions were unconstitutional. In August 1996, the D.C. Circuit held in abeyance any further review of the horizontal ownership provisions, and the Commission's rules promulgated thereunder, until the Commission completed its reconsideration of its rules. Thus, in effect, the Commission was waiting for the D.C. Circuit to rule, and now the D.C. Circuit is waiting for the Commission. This situation has now become particularly untenable, since depending how the recent transactions among large MSOs are treated, it appears that the horizontal limits originally issued by the Commission may be breached. I hope that the Commission will act to clarify this situation as quickly as possible.

My concern about concentration issues is heightened by rising cable rates. As the *Report* indicates, cable bills rose by an average of 8.5% last year, several times the rate of inflation. The cable industry has argued that much of these rate increases are due to increases in programming costs. I express no opinion on the existence of these additional costs, but I would make a few observations. First, it is difficult to make rational judgments about the effect of rising programming costs without accurate information. To that end, I believe that the Commission should consider some type of survey or reporting requirement so that actual programming costs can be reported, without revealing any confidential information, in next year's *Report*. Second, cable operators have two choices for recovering programming cost increases -- they can increase subscriber rates or they can increase advertising rates. Our current rules provide the cable industry little incentive to charge these costs to advertisers (not a captive audience), since we permit all of the costs to be passed on directly to consumers. Third, the *Report* describes several situations in which cable operators face actual head-to-head competition. Generally, the operators' responses were to offer customers new and improved services at similar or reduced prices. I am aware of no evidence that these operators are in financial difficulty or are unable to offer an attractive programming package to their customers.

Part of the answer to the dilemma of rising cable rates may not involve rates at all, but simply expanding consumer choice. One of the general underpinnings of our rate rules is that consumers should pay about what they would pay in a competitive video programming marketplace. I am coming to the conclusion, however, that consumers are being forced to pay for *packages* of programming that they would not buy in a competitive market, even at a reasonable price. In other words, even if our per channel prices were consistent with the per channel prices that would be charged in a competitive market, consumers may still be paying too much because they are being forced to purchase additional channels that they did not ask for and do not want. This may not have been a significant problem in a 30 or 40 channel universe, but in a 70, 80 or 100 channel universe, these unwanted channels can have a dramatic effect. As loudly as consumers complain about rates, they complain just as loudly about having to pay for additional programming services that they do not want and did not ask for.

This does not necessarily mean that all cable programming should be offered a la carte. It simply means that the cable industry can and should afford consumers more choice. In a competitive market, consumers would be able to choose from a range of video products because consumers have different needs and different resources. Some would choose the basic "Chevy" service; others would choose the fully-

loaded "Cadillac"; others would choose a model in between. The cable industry's current position seems to be that all Chevy owners must upgrade to a Cadillac or do without a car. That is not the way a competitive market would act. This is not an argument about price -- the Cadillac may be worth every penny the cable operator is charging -- but about consumer choice.

While we all hope that one day competitive factors will hold cable rates in check, wishful thinking will not fulfill our statutory mandate to keep rates reasonable. I do not believe it is enough to simply tell consumers that competition is "just around the corner." Consumers need protection now. I challenge the cable industry to provide consumers with the additional choice that they want and deserve. And I urge my colleagues to take our statutory mandate to protect consumers seriously by continuing to take a hard look at this issue.