

Table 8: Capital Expenditures by Major MSOs (\$ in millions)

Operator	2005			Jan.-June 2006		
	Total ¹⁴⁴	Plant Upgrades	Customer Premises Equipment	Total	Plant Upgrades	Customer Premises Equipment
Comcast ¹⁴⁵	\$3,567	\$265	\$1,876	\$1,834	\$135	\$1,012
Time Warner ¹⁴⁶	\$1,975	\$132	\$866	\$1,066	\$47	\$536
Charter ¹⁴⁷	\$1,088	\$49	\$434	\$539	\$23	\$258
Cablevision ¹⁴⁸	\$695	\$8	\$450	\$469	\$2	\$302
Mediacom ¹⁴⁹	\$228	\$42	\$124	\$105	\$23	\$50

5. Advanced and Other Services

54. In addition to traditional analog video services, most cable operators offer subscribers advanced video services, including digital video, video-on-demand, DVRs, and high-definition television; and non-video advanced services, including high-speed Internet access and telephony (circuit-switched telephony and/or voice over Internet protocol telephony).¹⁵⁰ Mid-sized and smaller cable operators also are deploying advanced services. Our review of five mid-sized and smaller cable operators shows that all offer digital cable service and high-speed Internet service, and many offer high-definition television,

¹⁴⁴ Total capital expenditures include expenditures for customer premises equipment, scalable infrastructure, line extensions, plant upgrades and rebuilds, and support.

¹⁴⁵ Comcast Corp., *Comcast Reports Fourth Quarter and Year End 2005 Results* (press release), Feb. 2, 2006; Comcast Corp., *Comcast Reports Second Quarter 2006 Results* (press release), July 27, 2006.

¹⁴⁶ Time Warner Inc., *SEC Form 10-K/A (Amended Annual Report)*, filed Sept. 13, 2006, for the period ending Dec. 31, 2005; Time Warner Inc., *SEC Form 10-Q (Quarterly Report)*, filed Aug. 2, 2006, for the period ending June 30, 2006, at 34.

¹⁴⁷ Charter Communications Inc., *Charter Reports Fourth Quarter and Full-Year 2005 Financial and Operating Results* (press release), Feb. 28, 2006; Charter Communications Inc., *Charter Communications Reports Second-Quarter 2006 Financial and Operating Results* (press release), Aug. 8, 2006.

¹⁴⁸ Cablevision Systems Corp., *Cablevision Systems Corporation Reports Fourth Quarter and Full Year 2005 Results* (press release), Feb. 27, 2006; Cablevision Systems Corp., *Cablevision Systems Corporation Reports Final Second Quarter 2006 Results and Files Restated Financial Statements for Prior Periods* (press release), Sept. 21, 2006.

¹⁴⁹ Mediacom Communications Corp., *Mediacom Communications Reports Results for Fourth Quarter and Full Year 2005* (press release), Feb. 23, 2006; Mediacom Communications Corp., *Mediacom Communications Reports Results for Second Quarter 2006* (press release), Aug. 9, 2006.

¹⁵⁰ Subscription data for advanced services shown in this Report are primarily for residential service, but also may include some small business service. Although most cable operators report business revenue separately, there may be telecommuters and businesses operating in households that are included in residential subscription data. See also 2005 Report, 21 FCC Rcd at 2525 ¶ 50 n.117.

video-on-demand, DVRs, and telephone service.¹⁵¹

55. **Digital Video Services.** Almost all households passed by cable systems can subscribe to digital video service. Most cable companies require digital cable subscribers to rent or buy a digital set-top box from them and then allow the customer to purchase one or more digital service tiers. Digital tiers provide a variety of programming similar to that offered in basic tiers, or theme tiers, such as a movie tier, a sports tier, and a non-English-language tier. Digital cable subscribers also may purchase one or more premium digital packages, such as HBO, Showtime, Cinemax, The Movie Channel, Starz!, and international programming.¹⁵² A high-definition service tier also is available to many digital cable subscribers. In addition, cable operators are offering interactive digital services to digital cable subscribers, such as DVRs and video-on-demand.¹⁵³ Data from the 2005 Form 325 indicate that nearly 96 percent of households passed have access to digital video, and 85 percent of systems have digital video capability.¹⁵⁴ The number of digital cable subscribers increased from 25.4 million at the end of 2004, to 28.6 million at the end of 2005, a 12.6 percent increase.¹⁵⁵ NCTA states that the number of digital cable subscribers increased to 32.9 million at the end of June 2006.¹⁵⁶

56. As shown in Table 9 below, as of June 2006, the five largest publicly-traded cable operators had sold digital cable services to between 35 and 73 percent of total basic cable subscribers.

¹⁵¹ The five cable operators are Mid-Hudson Cable, Northland Cable Television, Cebridge Connections, CableAmerica, and GCI.

¹⁵² To receive a digital premium channel, a subscriber must subscribe to the premium channel. For example, to receive digital HBO, a subscriber must subscribe to HBO.

¹⁵³ The digital video recorder service offered by cable operators requires a DVR set-top box.

¹⁵⁴ 2005 FCC Form 325 data.

¹⁵⁵ Cable Databook at 11; 2005 Cable Databook at 11.

¹⁵⁶ NCTA Comments at 27.

Table 9: Digital Cable Subscribers for Top MSOs (in millions)

Operator	2005		Jan.-June 2006	
	Digital Subscribers	Percent of Basic Cable Subs	Digital Subscribers	Percent of Basic Cable Subs
Comcast ¹⁵⁷	9.8	46%	10.5	49%
Time Warner ¹⁵⁸	5.4	49%	5.8	53%
Cablevision ¹⁵⁹	2.0	65%	2.3	73%
Charter ¹⁶⁰	2.8	48%	2.9	49%
Mediacom ¹⁶¹	0.5	35%	0.5	35%

57. NCTA reports that, as of the end of June 2006, cable operators were carrying the digital broadcast signals of 788 broadcast television stations.¹⁶² NCTA also states that an agreement between cable operators and public television stations ensures that local public television digital programming is being carried on cable systems throughout the country.¹⁶³

58. **High-Definition Television ("HDTV").** HDTV features dramatically improved, highly detailed picture quality; improved audio quality; and a wide-screen display. To obtain the full visual effect of HDTV, a cable subscriber also needs an HDTV set. By June 2006, 97 million households were passed by cable operators offering HDTV channels and additional HDTV programming using video-on-demand.¹⁶⁴ In addition to broadcast networks, 27 nonbroadcast networks now offer HDTV

¹⁵⁷ Comcast Corp., *Comcast Reports Fourth Quarter and Year End 2005 Results* (press release), Feb. 2, 2006; Comcast Corp., *Comcast Reports Second Quarter 2006 Results* (press release), July 27, 2006.

¹⁵⁸ Time Warner Inc., *SEC Form 10-K/A (Amended Annual Report)* filed Sept. 13, 2006 for period ending Dec. 31, 2005, at 24; Time Warner Inc., *Time Warner Inc. Reports Second Quarter 2006 Results* (press release), Aug. 2, 2006.

¹⁵⁹ Cablevision Systems Corp., *Cablevision Systems Corporation Reports Fourth Quarter and Full Year 2005 Results* (press release), Feb. 27, 2006; Cablevision Systems Corp., *Cablevision Systems Corporation Reports Second Quarter 2006 Selected Operating and Financial Measures* (press release), Aug. 8, 2006.

¹⁶⁰ Charter Communications Inc., *Charter Reports Fourth Quarter and Full-Year 2005 Financial and Operating Results* (press release), Feb. 28, 2006; Charter Communications Inc., *Charter Reports Second Quarter 2006 Financial and Operating Results* (press release), Aug. 8, 2006.

¹⁶¹ Mediacom Communications Corp., *Mediacom Communications Reports Results for Fourth Quarter and Full Year 2005* (press release), Feb. 23, 2006; Mediacom Communications Corp., *Mediacom Communications Reports Results for Second Quarter 2006* (press release), Aug. 9, 2006.

¹⁶² NCTA Comments at 29.

¹⁶³ NCTA Comments at 29. See also NCTA, *Public Television and Cable Announce Major Digital Carriage Agreement* (press release), Jan. 31, 2005.

¹⁶⁴ NCTA Comments at 28.

programming.¹⁶⁵

59. Comcast offers about 20 HDTV channels, including all major broadcast networks, Discovery HD, Universal HD, TNT HD, ESPN HD, and ESPN2 HD; and premium HD networks such as HBO, Cinemax, Starz, and Showtime.¹⁶⁶ Comcast plans to offer up to 35 HDTV channels in 2007, as well as 100 hours of HDTV video-on-demand programming.¹⁶⁷ Cox offers HDTV programming from nonbroadcast networks, local public broadcasting stations, and local broadcast network affiliates.¹⁶⁸ Time Warner offers HDTV programming from local broadcast networks and HDTV movies from HBO and Showtime.¹⁶⁹ Cablevision offers 22 HDTV channels and has 455,000 subscribers, a 114 percent increase in one year.¹⁷⁰ Charter offers the HDTV programming provided by local broadcast stations and HDTV movies from HBO and Showtime.¹⁷¹ Mediacom offers local broadcast stations' HDTV programming and the HDTV programming from HBO, Showtime, Starz, and The Movie Channel.¹⁷²

60. **Video-on-Demand ("VOD").** VOD allows subscribers to order programming from a central server at any time of day, and to fast-forward, rewind, and pause the programs.¹⁷³ In most cases, subscribers receive unlimited viewing of a VOD program for 24 hours. Some cable operators also offer subscription video-on-demand ("SVOD"), where subscribers pay a monthly fee for unlimited access to a library of pre-selected programs. Other cable operators offer near video-on-demand ("NVOD"), which typically features a schedule of popular movies and events offered on a staggered-start basis (*e.g.*, every 15 to 30 minutes). Cable companies view VOD as a competitive service to DVD/VHS rentals and a means to help reduce subscriber turnover rate (*i.e.*, churn). One analyst estimates that 29 million households now use VOD service.¹⁷⁴

61. Comcast provides almost 8,000 VOD programs each month, and 95 percent of these programs are available at no additional charge to digital subscribers.¹⁷⁵ In 2005, Comcast's VOD

¹⁶⁵ *Id.*

¹⁶⁶ Comcast Comments at 66-67.

¹⁶⁷ *Id.*

¹⁶⁸ Cox Reply at 4.

¹⁶⁹ See Time Warner Cable, at <http://www.timewarnercable.com/corporate/products/digitalcable/hdtv.html> (visited Feb. 2, 2007).

¹⁷⁰ Cablevision Systems Corp., *WWOR-TV My9 is the Latest Addition to Cablevision's Industry-Leading High Definition Lineup* (press release), Sept. 20, 2006.

¹⁷¹ See Charter Communications Inc., at <http://www.charter.com/Visitors/Products.aspx?ProductItem=6> (visited Jan. 26, 2007).

¹⁷² See Mediacom Communications Corp., at http://www.mediacomcc.com/cable_hdtv.html (visited Jan. 26, 2007).

¹⁷³ VOD differs from PPV. PPV is a pay television service for which cable subscribers pay a one time fee for each program viewed. The programs are generally available at pre-set times and in some cases are time shifted across several channels to increase the opportunity for viewing. Once initiated, the program cannot be paused, rewound or fast-forwarded.

¹⁷⁴ NCTA Comments at 30.

¹⁷⁵ Comcast Comments at 62.

subscribers watched more than 1.4 billion VOD programs, and on average, subscribers used the service more than 20 times per month.¹⁷⁶ Cox's VOD service provides more than 1,000 hours of a combination of free, pay-per-view, and subscription programming and is available to almost 60 percent of the households passed by Cox cable systems.¹⁷⁷ Cable operators are using VOD to offer locally oriented programming. Time Warner, for example, is offering local programming on about two-thirds of its systems.¹⁷⁸ Cablevision's VOD service provides more than 1,800 hours of programming and the company recently announced the addition of first-run broadcast television series from NBC.¹⁷⁹ Charter VOD service is available to more than 65 percent of Charter's 2.8 million digital video customers nationwide.¹⁸⁰ Charter has been upgrading its VOD video servers to increase the speed of delivery of VOD programming.¹⁸¹ Charter's VOD service offers more than 1,200 hours of programming.¹⁸² Mediacom's VOD service offers nearly 700 different VOD movies and programs each month.¹⁸³

62. **Digital Video Recorders ("DVRs").** The DVR service offered by cable operators allows subscribers to select programs from a program guide and record these programs onto a hard drive that is often built into the digital set-top box. Typically, DVR service can record two shows at the same time, and subscribers can watch one recorded program while recording another.¹⁸⁴ The newest digital set-top boxes provide HDTV, VOD, and DVR capability in the same unit. DVR recorded programs can be played back at any time. A DVR has more features than a VHS recorder, including the ability to pause, and then restart, live television programming. NCTA states that every major cable operator offers DVR service.¹⁸⁵ In May 2006, 12 percent of households that subscribe to cable also subscribed to cable DVR service.¹⁸⁶

¹⁷⁶ *Id.*

¹⁷⁷ Cox Reply at 4.

¹⁷⁸ NCTA Comments at 31. In a recent agreement with the North Carolina High School Athletic Association, Time Warner made available, for free, all eight football championship games on its VOD service. Time Warner Inc., *Time Warner Cable Reaches Agreement with the North Carolina High School Athletic Association to Televisе High School Sports Championship Games Live and On Demand* (press release), Nov. 7, 2006.

¹⁷⁹ Cablevision Systems Corp., *Popular NBC Broadcast Series Now Available to iO Customers On Demand* (press release), Sept. 28, 2006. Individual shows from *Law & Order SVU*, *Law and Order CI*, *The Office*, *Friday Night Lights*, and *Las Vegas* can be watched on Cablevision's VOD service on the day after they first appear on NBC at a price of 95 cents for a 24-hour rental. *Id.*

¹⁸⁰ Charter Communications Inc., *Charter Offers Southeast Division Customers Expanded On-Demand Content Through Broadbus Platform* (press release), Apr. 4, 2006.

¹⁸¹ *Id.*

¹⁸² NCTA Comments at 31.

¹⁸³ See Mediacom Communications Corp., at http://www.mediacomcc.com/cable_ppv.html (visited Jan. 26, 2007).

¹⁸⁴ See, e.g., Time Warner Cable, at <http://www.timewarnercable.com/corporate/products/digitalcable/dvr.html> (visited Jan. 26, 2007).

¹⁸⁵ NCTA Comments at 30.

¹⁸⁶ NCTA, *Competition Works, Consumers Win*, at http://i.ncta.com/ncta_com/PDFs/Consumers_Win_01.31.06.pdf (visited Feb. 6, 2007).

63. Comcast's DVR service allows subscribers to record up to 80 hours of standard-definition programming, and up to 15 hours of HDTV programming.¹⁸⁷ Comcast is also working with TiVo to include its DVR features in Comcast's set-top boxes. The companies have developed a software application that will enable Comcast to deploy TiVo's DVR features to compatible set-top boxes without an additional in-home visit by a technician.¹⁸⁸ Cox also has signed an agreement with TiVo to develop software that will enable Cox to deliver TiVo's DVR features to compatible set-top boxes without replacing existing DVR boxes, and without an installation appointment.¹⁸⁹ Time Warner also offers "Start Over" service, which allows digital cable subscribers to restart certain programs being aired from the beginning.¹⁹⁰ The free Start Over service, which does not require a DVR, lets viewers pause and rewind shows in progress but does not permit them to fast-forward through commercials or keep copies of programs. Cablevision's DVR set-top boxes can record up to 100 hours of standard-definition programming and up to 24 hours of HDTV programming.¹⁹¹ Charter also offers DVR service with features similar to that of other cable operators.¹⁹² Mediacom's DVR set-top boxes can record up to 60 hours of standard digital programming or 15 hours of HDTV programming.¹⁹³

64. **High-Speed Internet Service.** As of June 30, 2006, approximately 93 percent of households passed by cable systems had access to cable high-speed Internet service, and 79 percent of households passed by incumbent local telephone systems had access to DSL.¹⁹⁴ Cable, DSL, wireline, and wireless technologies provided high-speed Internet service to 50.2 million residential subscribers at the end of 2005.¹⁹⁵ Cable modems provided 55.2 percent of that total, DSL provided 40.1 percent, and other wireline, fiber, and wireless technologies provided the remaining 4.7 percent.¹⁹⁶ Cable's share has

¹⁸⁷ Comcast Comments at 67.

¹⁸⁸ *Id.* at 67-68. See also Comcast Corp., *Comcast and TiVo Demonstrate Integrated DVR Services at CES* (press release), Jan. 8, 2007.

¹⁸⁹ Cox Communications, *Cox Communications and TiVo Announce Deployment Agreement: Cox to Deploy TiVo's DVR and Advertising Software* (press release), Aug. 24, 2006.

¹⁹⁰ NCTA Comments at 31. See also *Time Warner Cable Plans to Triple Number of 'Start Over' Markets*, COMM. DAILY, Jan. 30, 2007, at 7-8.

¹⁹¹ See Cablevision Systems Corp., at <http://www.optimum.com/io/dvr/dvr.jsp> (visited Jan. 26, 2007). Cablevision's introduction of a remote DVR service that provides subscribers with full DVR functionality without the need for a set-top box in their homes has been slowed by a recent court decision that requires Cablevision to obtain licenses from the programmers it carries. See *Twentieth Century Fox Film Corp. v. Cablevision Systems Corp.*, 478 F.Supp.2d 607, (S.D.N.Y., March 22, 2007).

¹⁹² See Charter Communications Inc., at <http://www.charter.com/Visitors/Products.aspx?ProductItem=7> (visited Jan. 26, 2007).

¹⁹³ See Mediacom Communications Corp., at http://www.mediacomcc.com/cable_dvr.html (visited Jan. 26, 2007).

¹⁹⁴ FCC, *High-Speed Services for Internet Access: Status as of June 30, 2006*, Jan. 2007, at 3 and Table 14. This report and previous releases of the *High-Speed Services for Internet Access* report are available at <http://www.fcc.gov/wcb/iatd/comp.html> (visited Feb. 1, 2007).

¹⁹⁵ *Id.* at Table 3.

¹⁹⁶ *Id.* at Chart 6. NCTA states that 58.9 percent of all high-speed Internet households use cable modems, while 38.3 percent use DSL. NCTA Comments at 39.

declined from 61 percent at the end of June 2005, while DSL's has increased from 37.2 percent at the end of June 2005.¹⁹⁷ Kagan states that cable companies and telephone companies are competing for high-speed Internet subscribers using faster speeds and promotional offers.¹⁹⁸ According to Kagan, DSL has been winning more new subscribers in recent months, relative to cable, due to aggressive pricing discounts.¹⁹⁹ Most cable operators provide high-speed Internet service with one proprietary Internet Service Provider ("ISP") specifically created and owned by the cable operator.²⁰⁰ Although subscribers to cable systems may use another ISP (e.g., AOL, Earthlink, or NetZero), they often must pay both for the proprietary service and again for the other ISP. Time Warner and Comcast, however, appear to offer Earthlink broadband online service without requiring subscribers to pay twice.²⁰¹ AOL's new free service offers all cable high-speed Internet subscribers the option of using AOL as their ISP without requiring subscribers to pay for more than the price of their cable high-speed Internet service.²⁰²

65. As shown in Table 10 below, as of June 2006, the high-speed Internet penetration rate²⁰³ of five large cable operators is between 18 percent and 42 percent.²⁰⁴

¹⁹⁷ FCC, *High-Speed Services for Internet Access: Status as of June 30, 2005*, April 2006, Chart 6.

¹⁹⁸ Cable Databook at 63.

¹⁹⁹ *Id.*

²⁰⁰ For example, Comcast offers the service under the "Comcast High-Speed Internet" brand name; Cox offers the service under the "Cox High Speed Internet" brand name; Time Warner Cable offers subscribers its high-speed Internet service under its "Road Runner High-Speed Online" brand name; Cablevision offers high-speed Internet service under the brand "Optimum Online"; Charter offers the service under the "Charter High-Speed Internet" brand name; and Mediacom offers the service under the "Mediacom Online" brand name.

²⁰¹ See Earthlink, at <http://www.earthlink.net/highspeed/pricing/?id=cable> (visited Jan. 29, 2007). See also Earthlink, *Earthlink and Time Warner Cable Reach Agreement to Continue to Offer Earthlink Broadband Service to Time Warner Cable Customers* (press release), July 5, 2006. The FTC Consent Decree in the AOL/Time Warner transaction, which has since expired, required Time Warner Cable to carry at least three unaffiliated ISPs before offering AOL to its subscribers. See Federal Trade Commission, *FTC Approves AOL/Time Warner Merger with Conditions* (press release), Dec. 14, 2000, at <http://www.ftc.gov/opa/2000/12/aol.htm> (visited Mar. 28, 2007).

²⁰² See AOL, at http://free.aol.com/thenewaol/plan_choice.adp (visited Jan. 29, 2007).

²⁰³ Although there is no standard method for reporting penetration rates for advanced services, high-speed Internet service, penetration rates usually are calculated by dividing the number of high-speed Internet subscribers by the number households passed where high-speed Internet service is available. This is the method often used when high-speed Internet services are not yet available to every household passed by a cable system. Cablevision, however, has completed its system upgrade and makes high-speed Internet service available to all households passed by its cable systems. As such, Cablevision calculates its penetration rate for high-speed Internet service by dividing the number of high-speed Internet service subscribers by the number of households passed by its cable system. Mediacom also reports its penetration rate in terms of the number of households passed by its cable system.

²⁰⁴ Cox reports more than 3.2 million subscribers to its high-speed Internet service. Cox Reply at 6.

Table 10: High-Speed Internet Subscriptions

	Subscribers Dec. 31, 2005 (millions)	Subscribers June 30, 2006 (millions)	Penetration Rate June 30, 2006
Comcast ²⁰⁵	8.5	9.3	22%
Time Warner ²⁰⁶	4.8	5.4	27%
Cablevision ²⁰⁷	1.7	1.9	42%
Charter ²⁰⁸	2.2	2.4	21%
Mediacom ²⁰⁹	0.5	0.5	18%

66. The standard downstream speed for most cable high-speed Internet service is 6 Mbps.²¹⁰ Some cable operators offer additional high-speed Internet tiers with faster speeds for higher prices and lower speeds for lower prices.²¹¹ Cable operators also offer a variety of features with their high-speed Internet services, including storage capacity; multiple e-mail accounts; integrated security suites with anti-virus, anti-spyware, and firewall protection; pop-up blocking and spam filtering; specialized content; and home networking. Comcast offers 6 Mbps downstream and 384 Kbps upstream for \$42.95 per month and 8 Mbps downstream and 768 Kbps upstream for \$52.95 per month.²¹² Comcast also provides a service called PowerBoost, which doubles the speed of a subscriber's broadband connection when

²⁰⁵ Comcast Corp., *Comcast Reports Second Quarter 2006 Results* (press release), July 27, 2006; Comcast Corp., *Comcast Reports Fourth Quarter and Year End 2005 Results* (press release), Feb. 2, 2006.

²⁰⁶ Time Warner Inc., *Time Warner Inc. Reports Second Quarter 2006 Results* (press release), Aug. 2, 2006; Time Warner Inc., *SEC Form 10-K/A (Amended Annual Report)*, filed Sept. 13, 2006 for the period ending Dec. 31, 2005, at 24.

²⁰⁷ Cablevision Systems Corp., *Cablevision Systems Corporation Reports Second Quarter 2006 Results and Files Restated Financial Statements for Prior Periods* (press release), Sept. 21, 2006; Cablevision Systems Corp., *Cablevision Systems Corporation Reports Fourth Quarter and Full Year 2005 Results* (press release), Feb. 27, 2006.

²⁰⁸ Charter Communications Inc., *Charter Reports Second Quarter 2006 Financial and Operating Results* (press release), Aug. 8, 2006; Charter Communications Inc., *Charter Reports Fourth Quarter and Full-Year 2005 Financial and Operating Results* (press release), Feb. 28, 2006.

²⁰⁹ Mediacom Communications Corp., *Mediacom Communications Reports Results for Second Quarter 2006* (press release), Aug. 9, 2006; Mediacom Communications Corp., *Mediacom Communications Reports Results for Fourth Quarter and Full Year 2005* (press release), Feb. 23, 2006.

²¹⁰ NCTA Comments at 42.

²¹¹ *Id.* at 43.

²¹² See Comcast, Corp., at http://media.corporate-ir.net/media_files/irol/14/147565/Hi_Speed.pdf (visited Jan. 29, 2007).

downloading a large file (e.g., a movie or video file).²¹³ Cox recently announced speed increases in the majority of its markets.²¹⁴ Specifically, it has increased speeds to 7 Mbps downstream and 512 Kbps upstream for \$41.99 per month and 10-15 Mbps downstream and 1 Mbps upstream for \$56.99 per month.²¹⁵ Cox also provides the PowerBoost service without additional cost to its high-speed Internet subscribers.²¹⁶ Time Warner's "Road Runner" high-speed Internet service provides 5 Mbps downstream at rates starting at \$39.95 per month.²¹⁷ In 2006, Cablevision increased the speed of its Internet service to up to 15 Mbps downstream and 2 Mbps upstream.²¹⁸ Cablevision also offers "Optimum Online Boost," which increases downstream speeds of up to 30 Mbps and upstream speeds of 5 Mbps for an additional \$14.95 per month.²¹⁹ In addition, Cablevision offers a special order high-speed Internet service, "Optimum Online Ultra," which offers 50 Mbps both downstream and upstream for about \$200 per month.²²⁰ In 2006, Charter's high-speed Internet service increased speeds to 10 Mbps downstream and 1 Mbps upstream.²²¹ Charter also offers 3 Mbps and 5 Mbps tiers of high-speed Internet service.²²² Mediacom offers 10 Mbps for \$59.95 per month and 5 Mbps for \$45.95 per month.²²³

67. **Telephony Offered by Cable Operators.** Cable companies are offering facilities-based

²¹³ Comcast Comments at 69. See also Comcast Corporation, *Comcast Boosts Customers Broadband Speeds with New Network Technology* (press release), June 1, 2006.

²¹⁴ Cox Communications, *Cox High Speed Internet Customers Enjoying Dramatically Faster Speeds and Enhancements* (press release), Oct. 11, 2006.

²¹⁵ *Id.* See also Cox Communications, at <http://www.cox.com/fairfax/highspeedinternet/rates.asp> (visited Jan. 29, 2007).

²¹⁶ Cox Communications, *Cox High Speed Internet Customers Enjoying Dramatically Faster Speeds and Enhancements* (press release), Oct. 11, 2006.

²¹⁷ Time Warner Cable, *Road Runner Celebrates Its Ten Year Anniversary* (press release), Sept. 18, 2006. See also Time Warner Cable, at <http://www.timewarnercable.com/corporate/products/highspeedinternet/roadrunner.html> (visited Jan. 30, 2007).

²¹⁸ Cablevision Systems Corp., *Cablevision's Optimum Online Surpasses 2 Million Customers* (press release), Dec. 14, 2006; Cablevision Systems Corp., *Optimum Online Completes Significant Value-Added Speed Increase for All Customers* (press release), June 21, 2006. See also Cablevision Systems Corp., *Cablevision Posts '07 Prices* (Cablevision -- message board), Nov. 17, 2006, at http://www.lightreading.com/document.asp?doc_id=110950&site=cdn (visited Jan. 30, 2007). In last year's Report we stated that Cablevision charged \$44.95 per month for its high-speed Internet service. 2005 Report, 21 FCC Rcd 2535 ¶ 65.

²¹⁹ Cablevision Systems Corp., *Cablevision's Optimum Online Surpasses 2 Million Customers* (press release), Dec. 14, 2006.

²²⁰ *Id.*

²²¹ Charter Communications Inc., *Charter Rolls Out Enhanced High-Speed Internet Service; Faster 10 Mbps Download Speed and Advanced Security Suite Improve the Internet Experience for Customers* (press release), Sept. 21, 2006.

²²² *Id.*

²²³ See Mediacom Communications Corp., at http://www.mediacomcc/internet_max.html and at http://www.mediacomcc/internet_online.html (visited Jan. 30, 2007).

local telephone service using circuit-switched technology and voice-over-Internet protocol ("VoIP") technology.²²⁴ Kagan estimated that, at the end of 2005, 5.7 million cable subscribers purchased cable telephony service and projected that by the end of 2006, cable companies would provide local phone service to 8 percent of all U.S. households.²²⁵ NCTA states that cable telephony service is currently available to 73 percent of households and that 8.5 million households subscribe to the service.²²⁶

68. Comcast's telephone service is currently available to approximately 80 percent of the households passed by its cable systems, and 2.1 million households subscribe to the service.²²⁷ Cox provides telephone service in all of its cable systems, using both circuit-switched and VoIP technologies and currently has more than 2 million residential telephone subscribers.²²⁸ Cox states that its telephone service is a full life-line service and the network architecture does not require an Internet connection.²²⁹ Time Warner has deployed digital phone service in each of its 31 divisions using VoIP technology and has 1.6 million digital telephone subscribers.²³⁰ Cablevision VoIP telephone service has over 1 million subscribers.²³¹ More than half of its high-speed Internet subscribers also subscribe to Cablevision's VoIP telephone service.²³² As part of its telephone service, Cablevision offers an international calling plan that allows subscribers to call anywhere in the world for \$19.95 per month.²³³ Charter offers VoIP telephone service to 3.9 million households and plans to offer VoIP telephone service to between 6 million and 8 million households by the end of 2006.²³⁴ Charter's VoIP telephone service has over 191,000 subscribers.

²²⁴ A circuit-switched cable telephony voice call and an IP telephony voice call provided by a cable operator both begin with special equipment that connects a household's twisted pair infrastructure with the cable infrastructure. Cable circuit-switched telephony, however, eventually turns the call over to the public switched telephone network ("PSTN"), while IP telephony turns the call over to an Internet IP gateway for IP processing onto the PSTN or a managed IP Network. IP telephony processes voice telephone calls much like data on the Internet; that is, digitized pieces of data are divided into discrete packets and are transported over an IP network following any path that does not resist transfer.

²²⁵ Cable Databook at 11 and 63.

²²⁶ NCTA Comments at 45.

²²⁷ Comcast Comments at 71-72.

²²⁸ Cox Reply at 5.

²²⁹ *Id.*

²³⁰ Letter from Arthur H. Harding, Counsel for Time Warner, Inc., to Marlene H. Dortch, Secretary, FCC, MB Docket No. 05-192 (Nov. 10, 2005) at 4. Time Warner Cable, *Time Warner Cable Digital Phone Service Can Support Monitoring of ADT Security Systems* (press release), Oct. 30, 2006.

²³¹ Cablevision Systems Corp., *Cablevision's Optimum Voice Surpasses One Million Customers* (press release), July 18, 2006.

²³² *Id.*

²³³ *Id.*

²³⁴ Charter Communications Inc., *Charter Ramps Up Telephone Launches: Add 1 Million Homes Passed in Seven New Markets; Now Serves 191,000 Phone Customers* (press release), Apr. 17, 2006.

Charter also offers an unlimited calling plan to anywhere in Mexico for \$59.99 per month.²³⁵

69. Some cable companies have added mobile phone service to their telephony offerings. In November 2005, Comcast, Time Warner, Cox, and Advanced/Newhouse formed a joint venture with Sprint/Nextel to provide wireless telephone service.²³⁶ In the fall of 2006, these same cable companies and Sprint/Nextel formed a joint venture named SpectrumCo and acquired wireless spectrum licenses that provide a nationwide footprint.²³⁷ Comcast recently introduced wireless telephone service through its partnership with Sprint Nextel in Boston, Massachusetts, and Portland, Oregon.²³⁸

70. **Bundling.** Cable companies are combining video, high-speed Internet, and telephone services into bundles of two or three products and offering them at discounted introductory prices and/or savings on long-term prices, when compared with the price of buying each service separately. For example, some cable companies are offering a three-product bundle of video, high-speed Internet, and telephone service for \$99 per month.²³⁹ Cox claims that subscribers to its bundle of all three services can save up to 11 percent off the price of buying each service separately.²⁴⁰ For subscribers with one service, cable companies often offer discounted introductory prices to encourage purchase of a second service. For example, Cox basic cable video subscribers can purchase digital cable service, high-speed Internet service, or telephone service at a discounted price for the first three months.²⁴¹ Cox maintains that bundling multiple services has increased the number of new subscribers and reduced the loss of existing subscribers.²⁴² Comcast credits its telephone service as driving its success in selling the triple bundle of video, high-speed Internet, and voice service.²⁴³ Since the launch of digital telephone service, Comcast states that all of the company's digital services have experienced increased penetration rates.²⁴⁴

71. Cable companies also are combining video, high-speed Internet, and telephone services to attract business subscribers. For example, Charter offers the "Charter Business Bundle," which

²³⁵ Charter Communications Inc., *Charter Telephone Introduces Unlimited Calling to Mexico For Customers in Southern California* (press release), July 12, 2006.

²³⁶ Time Warner Cable, *Cable Consortium Acquires Spectrum Licenses Covering National Footprint* (press release), Oct. 5, 2006.

²³⁷ *Id.* See also Comcast Comments at 72-73.

²³⁸ Comcast Comments at 72.

²³⁹ Comcast Comments at 71; Cox Reply Comments at 1-2; and Cable Databook at 63. See also Cox Communications, at <http://www.cox.com/fairfax/bundle.asp> (visited Jan. 31, 2007).

²⁴⁰ See Cox Communications, at <http://www.cox.com/fairfax/bundle.asp> (visited Jan. 31, 2007).

²⁴¹ See Cox Communications, at <http://www.cox.com/fairfax/promotions/default.asp> (visited Jan. 31, 2007).

²⁴² Cox Communications, *A Decade of Bundling Delivers Cox Communications Considerable Competitive Advantages* (press release), Jan. 30, 2007.

²⁴³ Cablevision Systems Corp., *Cablevision's Optimum Voice Surpasses One Million Customers* (press release), July 18, 2006.

²⁴⁴ *Id.*

includes "Charter Business Video" and Charter Business Internet Plus," for \$99.99 per month.²⁴⁵ Cablevision offers a bundle of high-speed Internet and telephone service called "Optimum Double Play," which it claims can save businesses up to 60 percent compared to AT&T and Verizon.²⁴⁶ Cox states that the greater availability of telephone service to business has resulted in a 28 percent increase in business subscribers in the past year.²⁴⁷

72. **Mid-sized and Smaller Cable Operators.** The FCC Form 325 collects data from a random sample of cable systems with between 5,000 and 20,000 subscribers and a random sample of cable systems with fewer than 5,000 subscribers. Findings from 2005 Form 325 data show that, for systems with between 5,000 and 20,000 subscribers, 96 percent offer digital cable service, 96 percent offer high-speed Internet service, 25 percent offer telephone service, and 74 percent have capacities of 750 MHz or greater. For systems with 5,000 or fewer subscribers, 43 percent offer digital cable service, 34 percent offer high-speed Internet service, 5 percent offer telephone services, and 22 percent have cable plants with capacities of 750 MHz or greater.²⁴⁸

73. Last year, we examined six mid-sized and smaller cable operators to identify the advanced services they provided.²⁴⁹ This year, we examine five other cable operators and identify their offered advanced services.²⁵⁰ All provide digital video service, but not all offer VOD, HDTV, and DVR service. All provide high-speed Internet service, and most provide telephone service. Mid-Hudson Cable serves Catskill, New York, and offers a full range of advanced services that include digital video, HDTV, VOD, DVR, high-speed Internet service, and digital telephone service.²⁵¹ Northland Cable Television operates smaller market cable systems in Georgia, South Carolina, North Carolina, Mississippi, Alabama, Texas, Washington, California, and Idaho.²⁵² Northland offers digital video service, high-speed Internet service, and digital telephone service, but does not appear to offer HDTV, VOD, or DVR service.²⁵³ Cebridge Connections provides cable service to more than 1.3 million subscribers in 15 states and offers digital video service, HDTV, DVR, high-speed Internet service, and telephone service, but does not appear to offer VOD.²⁵⁴ Like Cebridge, GCI, which operates cable systems in Alaska, offers digital video

²⁴⁵ Charter Communications Inc., *Charter Business Introduces the Charter Business Bundle* (press release), June 1, 2006.

²⁴⁶ See Cablevision Systems Corp., at <http://www.optimum.com/business/ool/dp.jsp> (visited Jan. 31, 2007).

²⁴⁷ Cox Communications, *Business Customers Fuel Cox's Strong Third Quarter* (press release), Nov. 6, 2006.

²⁴⁸ 2005 FCC Form 325 data.

²⁴⁹ *2005 Report*, 21 FCC Rcd at 2537-38 ¶¶ 68-69.

²⁵⁰ The five mid-sized and smaller cable companies include Mid-Hudson Cable, Northland Cable Television, Cebridge Connections, CableAmerica, and GCI.

²⁵¹ See Mid-Hudson Cable, at <http://www2.mhcable.com/index.html> (visited Apr. 20, 2007).

²⁵² See Northland Cable Television, at <http://www.northlandcabletv.com/> (visited Apr. 20, 2007).

²⁵³ See Northland Cable Television, at <http://www.northlandcabletv.com/products/cable/default.asp?area=&office=> (visited Apr. 20, 2007).

²⁵⁴ See Cebridge Connections, at https://www.cebridge.net/cebridge/ctl?vo=pager&page=about_us/about_us.vm (visited Apr. 20, 2007).

service, HDTV, DVR, high-speed Internet service, and digital telephone service, but does not appear to offer VOD.²⁵⁵ CableAmerica serves 50,000 subscribers in Arizona, California, Michigan, and Missouri.²⁵⁶ CableAmerica offers digital video service, HDTV, VOD, DVR, and high-speed Internet service, but does not appear to offer VOD or telephone service.²⁵⁷

B. Direct-to-Home Satellite Service

1. Direct Broadcast Satellite

74. DBS service is provided via satellite to small parabolic “dish” antennas located at the individual residences of consumers or at business or educational organizations.²⁵⁸ There are three licensed U.S. DBS operators: DIRECTV, EchoStar (marketed as the “DISH Network”), and Dominion Video Satellite, Inc. (marketed as “Sky Angel”).²⁵⁹

75. **Subscribership.** As of June 2006, approximately 27.97 million U.S. households subscribed to DBS service. This represents an increase of 7.1 percent over the 26.12 million DBS

²⁵⁵ See GCI, at <http://www.gci.com/> (visited Apr. 20, 2007).

²⁵⁶ See CableAmerica, at <http://www.cableamerica.com/corp.hist.html> (visited Apr. 20, 2007).

²⁵⁷ See CableAmerica, at <http://www.cableamerica.com/> (visited Apr. 20, 2007).

²⁵⁸ We define the Direct Broadcast Satellite Service as “[a] radiocommunication service in which signals transmitted or retransmitted by space stations, using frequencies specified in § 25.202(a)(7), are intended for direct reception by the general public. For the purposes of this definition, the term direct reception shall encompass both individual reception and community reception.” 47 C.F.R. § 25.201. See also *2004 Report*, 20 FCC Rcd at 2792 ¶ 53. We note that this definition of DBS does not cover services offered in the Ka-band, although DBS operators are already beginning to use this frequency band to provide direct-to-home video services to subscribers.

²⁵⁹ DBS services operate in the 12.2-12.7 GHz frequency band. See 47 C.F.R. § 25.201 and 25.202(a)(7). DIRECTV is authorized to provide DBS service using 11 channels at the 119° W.L. orbital location, three channels at the 110° W.L. orbital location, and 32 channels at the 101° W.L. orbital location. EchoStar, through its affiliates, is authorized to provide DBS service using 21 channels at the 119° W.L. orbital location and 29 channels at the 110° W.L. orbital location. Combined, these two Commission-licensed DBS providers operate from all three full-CONUS orbital locations using all 96 channels assigned to these locations for DBS service. There currently are two or more operational DBS satellites at each of the three full-CONUS locations that, in combined operation, use all 32 channels at each station. See *Amendment of the Commission’s Policies and Rules for Processing Applications in the Direct Broadcast Satellite Service*, 21 FCC Rcd 9443 (2006) (“*DBS NPRM*”). Dominion holds licenses for eight channels at the 61.5° W.L. orbital position. The Commission has authorized EchoStar and Dominion Video, Inc. (“*Dominion*”) to provide service from the 32 channels at the 61.5° W.L. orbital location serving the eastern United States. EchoStar is assigned 22 channels at the location, and operates pursuant to special temporary authority on an additional two channels. The eight Dominion channels are operated by EchoStar and Dominion, through a commercial arrangement, over the EchoStar-3 satellite. EchoStar is authorized to provide service from the 32 channels at the 148° W.L. orbital location, serving the western United States. It is operating two satellites at that location on all 32 channels. *DBS NPRM*, 21 FCC Rcd at 9540 ¶ 14. Both DIRECTV and EchoStar lease additional capacity on FSS and BSS satellites. Additionally, GlobeCast WorldTV, a subsidiary of France Telecom, delivers a DTH subscription package of foreign channels directly to U.S. customers on the FSS Intelsat 5 satellite.

subscribers we reported last year.²⁶⁰ DBS accounts for approximately 29.2 percent of all U.S. MVPD subscribers.²⁶¹

76. DIRECTV is the largest DBS provider and second largest MVPD.²⁶² It served 15.51 million subscribers as of June 2006, an increase of 843,000, or 5.7 percent, from the 14.67 million subscribers it had as of June 2005.²⁶³ This compares with growth of 12.5 percent reported in the previous year. As of June 2006, EchoStar was the second largest DBS provider and third largest MVPD, with approximately 12.46 million subscribers as of June 30, 2006, an increase of approximately 1 million, or almost 9 percent, over the 11.45 million subscribers it had a year earlier.²⁶⁴ In 2005, EchoStar reported growth of 13 percent. Dominion Video Satellite's Sky Angel service serves fewer than 500,000 subscribers.²⁶⁵

77. **Financial Information.** Analysts attribute DBS's continued growth to higher than expected new subscribership, lower churn than expected for existing subscribers, and higher revenue yields per customer.²⁶⁶ For the two major providers, reported average revenue per user ("ARPU")²⁶⁷ grew and customer turnover remained relatively constant or increased slightly. For DIRECTV, ARPU was \$70.73 for the six months ended June 2006, compared with \$66.91 at mid-year 2005.²⁶⁸ For EchoStar, ARPU rose to \$62.71 in mid-year 2006 from \$58.46 in mid-year 2005.²⁶⁹ EchoStar's turnover rate rose slightly from 1.69 percent in mid-year 2005 to 1.70 percent in mid-year 2006,²⁷⁰ while DIRECTV's fell from 1.69 percent in mid-year 2005 to 1.59 percent in mid-year 2006.²⁷¹

²⁶⁰ See 2005 Report, 20 FCC Rcd at 2792 ¶ 54.

²⁶¹ See Appendix B, Table B-1.

²⁶² See Appendix B, Table B-3.

²⁶³ The DIRECTV Group, Inc., *SEC Quarterly Report Form 10-Q Pursuant to Section 13 or 15(d) of the Securities Act of 1934 for the Quarterly Period Ended June 30, 2006* ("DIRECTV 10-Q"), at 19.

²⁶⁴ EchoStar Communications Corp., *SEC Quarterly Report Form 10-Q Pursuant to Section 13 or 15(d) of the Securities Act of 1934 for the Quarterly Period Ended June 30, 2006* ("EchoStar 10-Q"), at 28. See also Appendix B, Table B-3.

²⁶⁵ Sky Angel's subscribership was provided in an e-mail from Nancy Christopher, Vice President, Corporate Communications, Dominion Video Satellite, Inc., March 26, 2007.

²⁶⁶ *DIRECTV 4Q Reaction*, SKYREPORT, Feb. 12, 2007 at 1 and SKYREPORT, *Subscription Media Flourishes, Bright Future*, Jan. 11, 2007, at 1. Last year, we reported that analysts attributed DBS growth to increased availability of local broadcast stations; service enhancements, including multiple room viewing solutions and HDTV; and the ability to co-market DSL service. 2005 Report, 20 FCC Rcd at 2792 ¶ 72.

²⁶⁷ ARPU is the revenue generated by an individual customer per month and is calculated by dividing revenues by the average number of subscribers during the period.

²⁶⁸ DIRECTV 10-Q, at 19.

²⁶⁹ EchoStar 10-Q, at 28.

²⁷⁰ EchoStar 10-Q, at 28.

²⁷¹ DIRECTV 10-Q, at 19.

78. **Programming Services and Pricing.** DIRECTV and EchoStar offer numerous programming packages. DIRECTV offers five English language and six Spanish language packages.²⁷² EchoStar offers seven English language and four Spanish language program packages.²⁷³ EchoStar and DIRECTV also offer packages to subscribers in Hawaii and Alaska; DIRECTV and EchoStar offer local stations as well, but Sky Angel service is not available in Hawaii or Alaska because its service comes from a satellite located at 61.5° that cannot reach those states.²⁷⁴ Both major DBS providers announced price increases to take effect in 2007. In December 2006, EchoStar raised prices averaging 4 percent across all programming packages, a smaller price increase than the 6.5 percent average increase reported by EchoStar last year, with HDTV rates shifting to a flat \$20 per month added to programming packages.²⁷⁵ In January 2006, DIRECTV announced price increases that averaged 7 percent across all tiers, raising prices for new lower-tier subscribers nearly 10 percent, but holding prices steady for existing higher-tier subscribers.²⁷⁶

79. DBS providers continued to expand their HD offerings in 2006. DIRECTV's Plus HD Package includes ESPN HD, ESPN2 HD, TNT HD, Discovery HD Theater, Universal HD, HD Net, HD Net Movies for \$9.99 per month.²⁷⁷ DIRECTV delivers the national HD broadcast feed of ABC, CBS, Fox, NBC, CW and MyNetworkTV in select markets.²⁷⁸ As of November 2006, DIRECTV had launched

²⁷² DIRECTV's family package, which includes more than 40 channels of nonbroadcast programming and local broadcast stations and two XM Radio audio channels, costs \$29.99 per month; Choice Extra, which includes more than 185 channels of nonbroadcast programming and local broadcast stations and 68 XM Radio audio channels, costs \$54.99 per month; Plus, which augments the Choice Extra services with a digital video recorder service, costs \$59.00 per month; Plus HD, which adds 8 network and local high-definition channels to Choice Extra services, costs \$69.99 per month; and Premier, which includes more than 250 channels of nonbroadcast and premier programming and local broadcast stations and 68 XM Radio audio channels, plus DVR services and HD channels, costs \$99.99 per month. Where local channels are not available, DIRECTV deducts \$3.00 per month from the price of the package. Programming information available at <http://www.directv.com/DTVAPP/global/secondaryIndex.jsp?assetId=1300025> (visited Feb. 8, 2007).

²⁷³ EchoStar's Dish Family, which includes more than 40 channels of nonbroadcast programming, costs \$19.99 per month; America's Top 100, which includes more than 100 channels of nonbroadcast programming, costs \$29.99 per month; America's Top 100 Plus, which adds local sports programming where available, costs \$39.99 per month; America's Top 200, which includes an additional 100 nonbroadcast programs to the America's Top 100 and more than 30 audio channels, costs \$42.99 per month; America's Top 250, which adds NBA TV and additional audio channels, costs \$52.99 per month; and America's Everything Pack, which adds 31 premium channels, costs \$89.99 per month. Programming information available at http://www.dishnetwork.com/content/whats_on_dish/programming_packages/index.shtml (visited Feb. 8, 2009).

²⁷⁴ DBS providers are required, if technically feasible, to serve the entire United States, including Alaska and Hawaii. 47 CFR § 25.148(c). See Section III.C.3., *infra*, at ¶ 257.

²⁷⁵ *Small Price Increase at DISH, Big Jump in HDTV Costs*, SKYREPORT, Jan. 3, 2007.

²⁷⁶ *DIRECTV Unveils 2007 Price Increases*, SKYREPORT, Jan. 19, 2007. See also Linda Moss, *DIRECTV Sets New Prices, Packages*, MULTICHANNEL NEWS, Jan. 22, 2007.

²⁷⁷ See The DIRECTV Group, Inc., *HD Programming*, at <http://www.directv.com/DTVAPP/packProg/channelChart2.jsp?assetId=1100084> (visited Feb. 12, 2007).

²⁷⁸ See The DIRECTV Group, Inc., *Local Channels in HD*, at <http://www.directv.com/DTVAPP/packProg/channelChart2.jsp?assetId=1100086> (visited Feb. 12, 2007).

HD local broadcast stations in 49 select markets.²⁷⁹ DIRECTV announced plans to expand to 100 non-broadcast HD channels by the end of 2007, capitalizing on expanded satellite capacity from the expected launch of two new satellites in 2007.²⁸⁰ The new offerings would deliver more than 1,500 local HD broadcast and 150 national non-broadcast HD channels.

80. In last year's report, we noted that Cablevision had sold its Rainbow 1 DBS satellite to EchoStar.²⁸¹ As a result of this transaction, EchoStar began offering VOOOM's HD programming services, carrying 15 channels, in January 2006.²⁸² EchoStar currently offers 31 HD channels, as part of its DishHD programming package, which costs \$20 and is offered as an add-on to the base programming package.²⁸³ EchoStar also offers an HD receiver and an HD DVR,²⁸⁴ and has packages offering a flat panel LCD television with its HD set-top boxes to offer an all-in-one equipment and service package.²⁸⁵ EchoStar offers HD local channels in 30 markets.²⁸⁶

81. **Equipment Pricing.** Subscribers to DBS service need a satellite dish and a set-top box. EchoStar and DIRECTV continue to rely on discounted set-top box equipment, free satellite dishes, and free installation to attract new customers.²⁸⁷ With respect to equipment, DIRECTV and EchoStar offer a

²⁷⁹ See *DIRECTV Lights Up HD Locals in Detroit*, Satellite Business News FAXUPDATE, Oct. 21, 2005; The DIRECTV Group, *DIRECTV Delivers High-Definition Local Channels to Boston, Dallas, Houston, Tampa, and Washington, D.C.* (press release), Dec. 9, 2005; The DIRECTV Group, *DIRECTV Transmits High-Definition Local Channels in New MPEG-4 Transmission Standard to Los Angeles* (press release), Dec. 28, 2005; The DIRECTV Group, *DIRECTV Brings High-Definition Local Channels to New York Today* (press release), Dec. 28, 2005. DIRECTV is carrying the HD local broadcast feed of the ABC, NBC, CBS, and Fox affiliates.

²⁸⁰ DIRECTV, Inc., *DIRECTV to Offer 100 National HD Channels in 2007* (press release), Jan. 8, 2007.

²⁸¹ 2005 Report, 21 FCC Rcd at 2539 ¶ 71.

²⁸² EchoStar Communications Corp., *DISH Network Launches Nation's Largest HD Package - DishHD, Featuring Local HD Channels and New VOOOM HD Channels* (press release), Jan. 6, 2006.

²⁸³ EchoStar Communications Corp., *Dish Network Expands High Definition Programming Lineup to 31 Channels* (press release), Feb. 1, 2007. New DISH Network customers can also subscribe to the DishDVR Advantage package, an all-inclusive TV package including over 200 channels, local channels where available, a DVR serving two TVs and free installation for \$49.99 per month. *Id.*

²⁸⁴ EchoStar's DishNetwork MPEG-4 ViP211 receiver supports standard or high definition programming on one television, and retails for an estimated \$240.00, The DishNetwork MPEG-4 ViP622 DVR dual-output tuner retails for around \$700.00 and supports up to two televisions, one HDTV and one standard. It can record up to 200 hours of standard-definition programming, up to 30 hours of high-definition programming, or a combination of the two.

²⁸⁵ Craig Moffett, Tom Wolzien, *View from the Back Office*, Bernstein Research, Jan. 7, 2005. In addition, DIRECTV sells a 30-inch LCD TV for \$1,600 and 40-inch TV for \$4,000, including delivery, installation, satellite dish, and the DISH 811 HD set-top box.

²⁸⁶ EchoStar Communications Corp., *DISH Network Offers Free High Definition DVR* (press release), Jan. 8, 2007. EchoStar Comments at 21.

²⁸⁷ The cost of discounted equipment is reflected in DIRECTV's and EchoStar's subscriber acquisition cost ("SAC"), which describes the cost of acquiring a new subscriber. For example, as of June 30, 2006, EchoStar's SAC was \$683 per subscriber, down 1.3 percent from \$692 in mid-year 2005. See EchoStar 10-Q. As of June 30, (continued....)

wide range of set-top box receivers. In March 2006, DIRECTV began a lease program for standard and HD set-top and DVR receivers available to new and existing customers.²⁸⁸

82. EchoStar and DIRECTV also continue to develop their DVR services.²⁸⁹ In December 2005, DIRECTV began offering a new DVR which allows customers to automatically record an entire season of the viewer's favorite shows and tracks changes to the programming schedules. The DVR also allows viewers to record all pay-per-view movies and only pay for those shows actually viewed. Moreover, the DVR allows viewers to mark their favorite scenes in a recorded program and jump back to them at any time while viewing the program.²⁹⁰ EchoStar continued to offer new DVR options for DISH Network customers, including offering customers the opportunity to bundle programming with a DVR option included for a flat rate.²⁹¹ In February 2007, EchoStar began offering new DISH Network customers an HD DVR option.²⁹²

83. Both EchoStar and DIRECTV offered interactive-capable receivers, permitting them to offer their customers a variety of interactive applications. For example, DIRECTV previewed its interactive applications with an interactive advertising campaign, followed by interactive content for football and baseball viewers, and plans for a subscription-based Game Lounge gaming platform available for a monthly subscription of \$5.95 or for \$1.95 on a pay-per-day basis.²⁹³ EchoStar offers 40 different virtual and enhanced channels and reports interactive television set-top boxes in 12 million households. The company plans to expand its interactive offerings to include auto racing and cricket coverage.²⁹⁴

84. **Availability of Local Broadcast Stations.** In approximately 175 of 210 television markets (*i.e.*, designated market areas, or DMAs), which represent 97 percent of all U.S. television households, at least one DBS provider offers the signals of local broadcast stations ("local-into-local")

(Continued from previous page) _____

2006, DIRECTV's SAC was \$422.10 per subscriber, down 34 percent from \$646 in mid-year 2005. See DIRECTV 10-Q.

²⁸⁸ Linda Moss, *DIRECTV Opts For a Leasing Model*, MULTICHANNEL NEWS, Jan. 23, 2006.

²⁸⁹ See 2005 Report, 21 FCC Rcd at 2547-8 ¶ 86.

²⁹⁰ DIRECTV, Inc., *DIRECTV's Most Advanced DVR Now Available at Retailers Nationwide; New DIRECTV Plus DVR Offers Innovative Features to Help Simplify the Lives of Consumers* (press release), Dec. 1, 2005.

²⁹¹ EchoStar Communications Corp., *DISH Network(TM) Launches DishDVR Advantage Package* (press release), Jan. 8, 2007. On May 2001, the U.S. Patent and Trademark Office issued TiVo a patent on the time warp technology for DVRs that allows viewers to pause, rewind and fast-forward live television shows. On April 13 2006 a jury in United States District Court in the Eastern District of Texas concluded that EchoStar violated TiVo's DVR technology patent and, therefore, awarded TiVo \$74 million in damages. Subsequently, the United States Court of Appeals granted EchoStar's request to lift TiVo's injunction effectively preventing EchoStar customers' DVR usage. The case remains pending.

²⁹² EchoStar Communications Corp., *DISH Network Offers Free High Definition DVR* (press release), Jan. 8, 2007.

²⁹³ DIRECTV, Inc., *DIRECTV and Dodge Launch 2007 Caliber Interactive Advertising Campaign; Four New Interactive Ads Make it Easy for DIRECTV Customers to Experience the All-New Dodge Caliber Without Having to Leave Their Couch* (press release), May 5, 2006; *YES Interactive only on DIRECTV" Launches as First-Ever Interactive Content for Major League Baseball Telecasts* (press release), July 25, 2006; and *DIRECTV Redefines Casual Gaming with Launch of Game Lounge and Exclusive Mattel Agreement* (press release), Feb. 13, 2007.

²⁹⁴ EchoStar Communications Corp., *DISH Network(TM) Expands Interactive TV Offerings* (press release), Jan. 8, 2007.

service).²⁹⁵ EchoStar offers local-into-local service in more than 174 cities, and charges \$5.99 per month for inclusion of local broadcast stations in each service plan.²⁹⁶ DIRECTV offers local broadcast stations in 143 markets across the country and provides local programming in HD in 42 cities.²⁹⁷

85. **Regulatory Issues.** DBS systems in the United States currently operate in the 12.2-12.7 GHz band from satellites in orbital locations that are spaced nine degrees apart. The Commission recently initiated two rulemaking proceedings in which the Commission proposes to make additional spectrum available for a new generation of broadband, video, audio, data, multimedia, high definition, and other services.

86. First, by international agreement, a new allocation of spectrum for satellite services in the United States in the 17/24 GHz bands will become effective in April 2007. In June 2006, the Commission initiated a rulemaking proceeding to consider service rules for this new spectrum, including the appropriate method for processing applications, access to the U.S. market from non-U.S. licensed satellites, orbital spacing, and other technical requirements.²⁹⁸

87. The Commission also began a rulemaking proceeding seeking comment on revisions to the licensing procedures and technical rules governing DBS service, including "tweener" applications.²⁹⁹ "Tweener" locations refer to orbital positions that would be located between locations originally designated in the ITU Region 2 Band Broadcast Satellite Service Plan.³⁰⁰ Under this plan, the United

²⁹⁵ See <https://customersupport.dishnetwork.com/netqualweb/localmarkets.pdf>; <http://directv.com/DTV/global/contentPage.jsp?assetId=1000013>; <http://nielsenmedia.com/nc/portal/site/Public/>.

²⁹⁶ EchoStar Comments at 21. The price for standard definition local channels is \$5.99 in markets in which all four of the major networks are offered; \$4.99 where three of the four are offered; and, \$3.99 where only two of the four are offered. See also EchoStar, <https://customersupport.dishnetwork.com/customernetqual/prepAddress.do> (visited Feb. 8, 2007).

²⁹⁷ The DIRECTV Group, Inc., Local Channel Markets, at <http://directv.com/DTVAPP/global/contentPage.jsp?assetId=1000013>. Where local channels are not available, DIRECTV deducts \$3.00 per month from the price of the package. See DIRECTV <http://www.directv.com/DTVAPP/packProg/localChannels.jsp?assetId=900018> and <http://phx.corporate-ir.net/phoenix.zhtml?c=127160&p=irol-newsArticle&ID=910053&highlight=> (visited Feb. 8, 2007).

²⁹⁸ *Establishment of Policies and Service Rules for the Broadcasting Satellite Service at the 17.3-17.7 GHz Frequency Band and at the 17.7-17.8 GHz Frequency Band Internationally, and at the 24.75-25.25 GHz Frequency Band for Fixed Satellite Services Providing Feeder Links to the Broadcasting-Satellite Service and for the Broadcasting Satellite Service Operating Bidirectionally in the 17.3-17.7 GHz Frequency Band*, 21 FCC Rcd 7426 (2006) ("Broadcasting Satellite Service NPRM").

²⁹⁹ See *Amendment of the Commission's Policies and Rules for Processing Applications in the Direct Broadcast Satellite Service*, 21 FCC Rcd 9443 (2006).

³⁰⁰ In the early 1980s, ITU members reached agreement on assigning BSS spectrum at specific orbit locations among the ITU's Region 2 member countries. (ITU Region 2 includes North, Central, and South America, and Greenland). See Article 5, Section 1 of the ITU Radio Regulations. The eight U.S. orbital positions, proceeding from east to west (all West Longitude), are 61.5°, 101°, 119°, 148°, 157°, 166°, and 175°. Each of the eight orbital locations is capable of providing 32 analog channels, each using 24 megahertz of bandwidth. The nine-degree orbital spacing in the DBS service enables subscribers to use earth station antennas that are smaller than those generally employed for C and Ku-band services.

States was assigned eight DBS orbital locations, spaced at intervals of at least nine degrees. Tweener locations are those other than those in the original Region 2 Plan and also are known as "reduced spacing or non-nine-degree-spaced" locations. Tweener locations are selected by applicants to provide coverage using the smaller-sized satellite dishes that consumers have come to expect, while attempting to minimize interference from adjacent in-orbit satellites.³⁰¹ If adopted, the revised rules would permit satellite carriers to launch additional satellites to increase their capacity, which could allow them to increase their video offerings.

88. At the end of 2004, the Satellite Home Viewer Extension and Reauthorization Act of 2004 ("SHVERA") was enacted. SHVERA addresses a variety of issues related to the carriage of broadcast television signals on DBS systems.³⁰² Among its provisions, SHVERA extended satellite carriers' compulsory copyright license to carry distant signals through the end of 2009.³⁰³ Generally, a DBS operator must terminate distant signal service to any subscriber that elected to receive local-into-local service and is precluded from providing distant network signals to new subscribers in markets where local-into-local service is available.³⁰⁴ The statute also permits satellite carriers to deliver the digital signal of a distant network station to consumers in unserved digital households or to subscribers who have a waiver from the local television station affiliated with the same network.

89. In 2006, a district court in Florida issued a nationwide permanent injunction barring EchoStar from providing any distant network programming pursuant to the statutory copyright license.³⁰⁵ After a failed attempt to reach a settlement with all of the networks involved, EchoStar began shutting off distant network subscribers in compliance with the District Court's order to do so by December 1, 2006. In the same timeframe, National Programming Service ("NPS") began offering its All America Direct distant network service to EchoStar subscribers using satellite transponder capacity leased from Echo Star. The District Court rejected a broadcaster challenge to the NPS offering; that order is on appeal as of

³⁰¹ In November 2006, the International Bureau of the Commission issued two conditional authorizations for Tweener locations. *EchoStar Satellite L.L.C., Application to Construct, Launch, and Operate a Direct Broadcast Satellite at the 86.5° W.L. Orbital Location, Order and Authorization, DA 06-2440* (rel. Nov. 29, 2006); *Spectrum Five, L.L.C., Petition for Declaratory Ruling to Serve the U.S. Market Using Broadcast Satellite Service Spectrum from the 114.5° W.L. Orbital Location, Order and Authorization, DA 06-2439* (rel. Nov. 29, 2006). In one decision, Spectrum 5 was authorized to access the United States market from a foreign-licensed Tweener orbital location. In the other decision, EchoStar was licensed to provide service from a Tweener location. The Bureau processed the Tweener applications on an ad hoc basis. The authorizations were conditioned upon operator-to-operator coordination, compliance with ITU technical requirements, and compliance with the outcome of the DBS proceeding.

³⁰² See generally, *2005 Report*, 21 FCC Rcd at 2542-3 ¶ 77.

³⁰³ SHVERA can be found at Title IX of the Consolidated Appropriations Act, 2005 (H.R. 4818), codified at 47 U.S.C. §§ 338, 339 and 340.

³⁰⁴ Distant signals are broadcast stations that originate outside the television market where a consumer lives. That is, the consumer resides in a different Nielsen DMA than the one where the broadcast station's community of license is located.

³⁰⁵ See *CBS v. EchoStar*, 472 F. Supp. 2d 1367 (S.D. Fla. 2006).

this writing.³⁰⁶ On January 8, 2007, the U.S. Supreme Court declined to hear EchoStar's appeal of the December 1, 2006, shut-down order.³⁰⁷

90. In April 2006, the Commission issued a Notice of Proposed Rulemaking to begin the process of implementing recommendations for DTV measurement procedures submitted to Congress.³⁰⁸ In the Notice, we proposed to amend the rules to include procedures for measuring field strength of digital television signals. Specifically, the Commission sought comment on measurement procedures; on measurement rules with respect to weather conditions, data recording, and tester availability; and on what type of antenna should be used to take measurements. Finally, in May 2006 and July 2007, pursuant to SHVERA, the Commission granted waivers to local network stations of the requirement to submit to a digital signal strength test.³⁰⁹

91. **Satellite Fleet Developments and Video Capacity.** Both DIRECTV and EchoStar launched new satellites in 2006. In February, EchoStar's EchoStar X satellite was launched at the 110° W.L. orbital location and began commercial operation during the second quarter of the year.³¹⁰ The satellite allows EchoStar to increase the number of markets where local channels are offered, including high definition local channels, and it will eliminate the need for some of its subscribers to use multiple dishes to receive programming.³¹¹ In October 2006, the DIRECTV 9S satellite was launched at the 101° W.L. orbital location and began commercial operation. Additionally, DIRECTV plans to launch two additional satellites, DIRECTV 10 at 99° W.L. and DIRECTV 11 at 103° W.L., in 2007 to increase spot-beam capability for local and national HD channels, as well as capacity for new interactive and enhanced services and standard-definition programming. A third satellite under construction, DIRECTV 12, will serve as a ground spare.³¹² DIRECTV states that the combined capacity of the four satellites will enable DIRECTV to retransmit more than 150 national channels in high definition and the digital signals of approximately 1,500 local broadcast stations.³¹³ However, existing DIRECTV subscribers will need to

³⁰⁶ See *NPS Adds Distant Station Subs*, SATELLITE BUSINESS NEWS FAX UPDATE, Jan. 1, 2007, at 1.

³⁰⁷ See *CBS v. EchoStar*, 450 F. 3d 505 (11th Cir. 2006), cert denied 1272 S. Ct. 945 (2007).

³⁰⁸ *Measurement Standards for Digital Television Signals Pursuant to the Satellite Home Viewer Extension and Reauthorization Act*, 21 FCC Rcd 4735 (2006).

³⁰⁹ *Waiver of Digital Testing Pursuant to the Satellite Home Viewer Extension and Reauthorization Act of 2004*, 21 FCC Rcd 4813 (2006). The Commission renewed 15 of those waivers in October 2006. *Waiver of Digital Testing Pursuant to the Satellite Home Viewer Extension and Reauthorization Act of 2004*, 22 FCC Rcd 12918 (MB 2007).

³¹⁰ Boeing Sea Launch, *Sea Launch Delivers EchoStar X Satellite to Orbit* (press release), Feb. 15, 2006, available at http://www.boeing.com/news/releases/2006/q1/060215c_nr.html (visited Feb. 9, 2007).

³¹¹ EchoStar Communications Corp., *Quarterly Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the Quarterly Period Ended March 30, 2006*, at 13 and 32.

³¹² The DIRECTV Holdings, LLC, *Quarterly Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the Quarterly Period Ended November 30, 2006*, at 17.

³¹³ DIRECTV Group, Inc., *DIRECTV 9S Satellite Launches Successfully; Expands DIRECTV Fleet to Nine Spacecraft* (press release), Oct. 13, 2006, available at <http://phx.corporate-ir.net/phoenix.zhtml?c=127160&p=irol-newsArticle&ID=916210&highlight=> (visited Feb. 9, 2007).

upgrade to a new satellite dish and HD compatible set-top box in order to access the programming transmitted by the new satellites.³¹⁴

92. Additionally, both EchoStar and DIRECTV continued to utilize orbital locations assigned to other countries under international agreements in order to deliver DBS services to U.S. subscribers. These arrangements involve agreements to transfer U.S. licensed satellites to foreign entities that are then licensed by the country to which the orbital location is assigned. Those entities then make available capacity for U.S. service.³¹⁵ In addition, on April 7, 2006, the Commission authorized SES Americom, acting pursuant to a contract with EchoStar, to transfer control temporarily of the Ku-band frequencies on its AMC-16 spacecraft to Telesat Canada, which would operate those frequencies at the 118.75° W.L. orbital location, making capacity available for EchoStar's use in the United States.³¹⁶ The Commission also authorized EchoStar to receive signals from the Ku-band portion of the satellite in the United States in order to provide enhanced DTH service.³¹⁷ On April 18, 2006, the Commission authorized EchoStar to transfer control of its EchoStar 4 satellite to QuetzSat, S. de R.L. de C.V., a Mexican company, which would operate the satellite at the 77° W.L. orbital location.³¹⁸ The Commission also authorized EchoStar to receive signals in the United States from the satellite, using up to 1 million dishes.

2. Home Satellite or Large Dish Service

93. The home satellite dish ("HSD"), or large dish, segment of the satellite industry is the original satellite-to-home service offered to consumers. It involves the home reception of analog signals transmitted by satellites operating in the C- and Ku-band frequencies, generally referred to here as

³¹⁴ The DIRECTV Group, Inc., *DIRECTV to Deliver Local HD Programming in 67 Markets by Year End* (press release), Oct. 10, 2006. According to DIRECTV, to receive the HD programming, subscribers must purchase a HD set-top box or HD Receiver/DVR compliant with the MPEG-4 standard, for which DIRECTV offers a \$100 rebate. Existing subscribers must also purchase a new, slightly larger dish antenna, which is offered with an initial upgraded HD set-top box for \$99, and \$99 per additional receiver.

³¹⁵ *DIRECTV Enterprises LLC, Order and Authorization*, 20 FCC Rcd 11772 (IB 2005) (service to U.S. DTH subscribers from 72.5° W.L. orbital location assigned to Canada in ITU "planned" band, using DIRECTV 1); *EchoStar Satellite LLC, Order and Authorization*, 20 FCC Rcd 11755 (IB 2005) (service to U.S. DTH subscribers from 129° W.L. orbital location assigned to Canada in ITU "planned" band, using EchoStar 5); *DIRECTV Enterprises LLC, Order and Authorization*, 19 FCC Rcd 15529 (IB 2004) (service to U.S. DTH subscribers from 72.5° W.L. orbital location assigned to Canada in ITU "planned" band, using DIRECTV 5).

³¹⁶ *SES Americom Inc., Order and Authorization*, 21 FCC Rcd 3430 (IB 2006). The Ku-Band frequencies at the 118.75° W.L. orbital location are effectively precluded from use by U.S. licensed satellites, and assigned to Canada, under the 1988 Trilateral Arrangement. *See Trilateral Arrangement Regarding Use of the Geostationary Orbit Reached by Canada, Mexico, and the United States*, Public Notice (Sept. 2, 1988).

³¹⁷ Direct to Home ("DTH") is a broad industry term that can encompass all satellite-based direct to consumer services, including DBS, Digital Audio Radio Satellite Service ("DARS"), and Broadcast Satellite Services ("BSS"). The latter is the international term used for a radio communication service in which broadcast signals transmitted or retransmitted by space stations are intended for direct reception by the general public. *See, e.g.*, 47 C.F.R. § 2.1. Typically, the Commission uses DTH to refer to direct-to-consumer video services provided in frequency bands allocated for Fixed Satellite Services ("FSS"), rather than DBS-allocated bands of 12.2-12.7 GHz. *See* 47 C.F.R. §§ 25.201, 25.202(a)(7).

³¹⁸ *EchoStar Satellite LLC, Order and Authorization*, 21 FCC Rcd 4077 (IB 2006).

C-band. Programming available in the C-band consists primarily of nonbroadcast program channels transmitted to cable operators that they, in turn, distribute to their subscribers through cable systems. Cable operators pull down the transmissions via C-band receiving dishes at the cable operator's central technical facility or "headend." C-band channels may be transmitted either as clear channels, available for free reception, or as scrambled signals.³¹⁹ In order to receive one or more scrambled channels, an HSD owner must purchase an integrated receiver-decoder from an equipment dealer and then pay a monthly or annual subscription fee to a program packager for authority to receive the channels.³²⁰

94. The number of HSD households continues to decline. As of June 2006, there were 111,478 HSD subscribers, a 45.9 percent drop from the 206,358 we reported last year.³²¹ This trend continues; in January 2007, there were 68,781 households authorized to receive HSD service, down 38.3 percent in the six months since June 2006.³²²

95. C-band programmers continue to market DBS services to their customers, whether as an alternative or an addition to their free-to-air or subscription C-band HSD services. For example, C-band program packagers, National Programming Service, LLC ("NPS") and Superstar/Netlink have partnered with EchoStar to offer DBS services to their C-band customers.³²³ Additionally, prices have fallen for technology which allows C-band customers to receive digital-only satellite channels in addition to available analog programming.³²⁴ Motorola's digital home satellite dish technology, 4DTV, currently sells for approximately \$479, compared to \$550 last year.³²⁵ The 4DTV box allows customers to receive

³¹⁹ In March 2005, the Commission issued a Notice of Proposed Rulemaking concerning technical changes to its earth station rules, including a proposal to prohibit analog video transmission in the C-band, with a one-year transition period. *2000 Biennial Regulatory Review – Streamlining and other Revisions of Part 25 of the Commission's Rules Governing the Licensing of Spectrum Usage by Satellite Network Earth Stations and Space Stations*, 20 FCC Rcd 5593, 5625 (2005) ¶ 88. This proceeding is pending.

³²⁰ HSD systems are typically designed to receive programming from several different satellites at several different orbital locations. Most HSDs include motors that permit the receiving dishes to rotate and receive signals from these many satellites. Space considerations and zoning regulations restrict many viewers' ability to install the large antenna needed for HSD reception, typically ranging from 4 to 8 feet in diameter.

³²¹ *2005 Report*, 20 FCC Rcd at 2792 ¶ 80.

³²² *C-BAND*, SKYREPORT, Feb. 12, 19, 2006, at 4 and *C-Band Numbers Keep Dwindling*, Satellite Business News FAXUpdate, July 7, 2006. These numbers are based on a report from Motorola's Access Control Center, which oversees authorizations and de-authorizations of satellite receivers using Motorola's proprietary conditional access systems.

³²³ See Superstar Netlink and Tuner Vision at http://www.superstar.com/dishnetwork_index.asp and National Programming Service, LLC., at <http://www.callnps.com/smalldish.htm> (visited Feb. 9, 2007).

³²⁴ 4DTV is Motorola's proprietary digital television receive-only communications satellite receiver box and uses the Motorola DigiCipher II, or DCII, standard of signal encryption and compression. 4DTV receivers are also capable of receiving analog satellite transmissions. See Motorola, Inc., at <http://www.4dtv.com/> (visited Feb. 9, 2006). VideoCipher is the conditional access system used by most C-band receivers to decode subscription based and premium satellite TV channels. DigiCipher II, or DCII, is Motorola's proprietary video distribution system that is used by most digital satellite channels.

³²⁵ *2005 Report*, 20 FCC Rcd at 2792 ¶ 81. The price of a receiver is often significantly discounted with the purchase of a programming package. For example, C-band programming provider Skyvision offers the Motorola (continued....)

four types of programming: (1) free, unscrambled analog channels and so-called "wild feeds"; (2) VideoCipher II Plus subscription services; (3) free DigiCipher II services; and (4) subscription-based DigiCipher II channels.

96. Additionally, GlobeCast WorldTV, a subsidiary of France Telecom, delivers a DTH subscription package of foreign channels directly to U.S. customers on the FSS Intelsat 5 satellite.³²⁶ GlobeCast offers two types of channels: free-to-air ("FTA") and encrypted. The FTA channels are unscrambled, and thus can be received with any DVB-compliant MPEG-2 receiver package. Encrypted channels are scrambled, and require a monthly subscription in addition to the receiver package purchase price.³²⁷

3. Satellite-Based Advanced Services

97. **Broadband Satellite Services.** Satellite broadband connectivity has become available to nearly any U.S. consumer with line-of-sight view of the satellite, providing a valuable option for rural residents and businesses.³²⁸ Services may be offered either directly by satellite companies or by other telecommunications providers leasing capacity on existing satellites, and may be integrated with other services such as direct-to-user video via a single dish.³²⁹ Satellite broadband providers served 495,365 subscribers in June 2006, up 31 percent from the 376,837 subscribers reported in June 2005.³³⁰

98. EchoStar and DIRECTV continue to market broadband and DSL services through relationships with local exchange carriers, as well as satellite and other broadband providers. DIRECTV maintains relationships with LECs Verizon, BellSouth³³¹ and Qwest, as well as with Earthlink in order to offer high-speed broadband to standard and HD programming customers for an additional \$10.00 per month.³³² EchoStar offers a point-of-sale platform called GetConnected, Inc. that helps customers select

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4DTV DSR922 receiver for \$439.00 with the purchase of a programming package. See Skyvision, Inc., at <http://skyvision.com/store/dtv.html> (visited Feb. 9, 2007).

³²⁶ *About GlobeCast WorldTV*, available at <http://www.globecastwtv.com/> (visited Feb. 2, 2007). In the United States, satellite video services delivered directly to subscriber homes are provided in two separate sets of frequency bands. DBS is a radiocommunications service in which signals transmitted or retransmitted by space station in the 12.2-12.7 GHz frequency band are intended for direct reception by the general public. See 47 C.F.R. §§ 25.201 and 25.202(a)(7). DTH satellite service is provided in bands internationally allocated to the FSS using FSS satellites. See 47 C.F.R. Part 25.

³²⁷ See http://www.globecast.com/_2004/_0_library/brochures/GlobeCast_wtv.pdf. Customers can also receive GlobeCast's WorldTV channels in Alaska, Hawaii, Puerto Rico or the USVI. The company transmits its programming via Galaxy 25, their satellite which covers the continental United States.

³²⁸ For further discussion of broadband services via satellite, see *Annual Report and Analysis of Competitive Market Conditions with Respect to Domestic and International Satellite Communications Services*, 22 FCC Rcd 5954 (2007).

³²⁹ For example, SES Americom's AMC-15 satellite is dedicated to its Americom2Home service. Its Ka-band payload optimized to provide these combined services via a single dish.

³³⁰ *High-Speed Services for Internet Access: 2006 Status Report*, note 194 *supra* at 5.

³³¹ For purposes of this Report, BellSouth and AT&T are treated as separate companies. See note 28 *supra*.

³³² The DIRECTV Group, Inc., *Internet Access*, at <http://www.directv.com/DTVAPP/global/contentPage.jsp?assetId=900028> (visited Feb. 14, 2007).

DSL and broadband services from a variety of providers, including AT&T, Verizon, BellSouth, Qwest, Embarq, WildBlue and Earthlink.³³³

99. **Mobile Video Services.** Both major DBS providers expanded their mobile or transportable video services in 2006. Both continue to provide on-board video programming to commercial airlines for in-flight TV services.³³⁴ In 2006, DIRECTV initiated a TOTAL CHOICE Mobile video service, providing 185 channels of news, weather, traffic, sports and other local entertainment programming to car video screens for \$49.99 per month; users must purchase a specialized tracking satellite system with a Global Positioning System.³³⁵ DIRECTV also announced a portable satellite and TV system, DIRECTV Sat-Go, offering a brief-case-sized 17" LCD monitor with an integrated receiver, antenna and battery.³³⁶ EchoStar offers three versions of PocketDish, a hand-held video, music, photo and gaming device which can store up to 20 hours of programming from select DVR receivers.³³⁷ EchoStar also announced a TV on the Go service, which will use a roof-rack-mounted mobile in-car satellite antenna for television viewing.³³⁸

C. Broadband Service Providers

100. For purposes of this *Report*, we define BSPs as newer firms that are building state-of-the-art, facilities-based networks to provide video, voice, and data services over a single network.³³⁹ Most BSPs are overbuilders competing directly with existing cable operators.³⁴⁰ As we previously reported, BSPs face considerable challenge, which, the discussion below indicates, continues. BSP competition to

³³³ EchoStar Communications Corp., *DISH Network(TM) Offers Consumers High-Speed Internet Options; Launch of GetConnected, Inc.'s Platform Allows Consumers to Shop for DISH Network Programming and DSL Service at the Same Time* (press release), Sept. 21, 2006 and EchoStar Communications Corp., *Internet Access, at* https://compass.getconnected.com/v_internet/index.asp (visited Feb. 14, 2007).

³³⁴ See, e.g., World Airline Entertainment Association, *Airline Inflight Entertainment and Communications (IFE) Fact Sheet* ("IFE Fact Sheet"), available at <http://www.waea.org/Press/Latesttrends.pdf> and EchoStar Communications Corp., *Virgin America to Offer EchoStar's Dish Network at Every Seat on Every Flight* (press release), Jan. 12, 2007.

³³⁵ DIRECTV, Inc., *DIRECTV Delivers Live Local Channels to Motorists on the Open Road for the First Time* (press release), Aug. 23, 2006, and *Satellite*, COMM. DAILY at 13 (Apr. 24, 2006) (story re KVH Industries' TracVision A5 mobile satellite system).

³³⁶ DIRECTV, Inc., *DIRECTV Anywhere, Anytime, Anyplace* (press release), Jan. 8, 2007. The service costs \$4.99 per month and permits use of the same channels received at home.

³³⁷ Joel Meyer, *EchoStar Turns Out PocketDish*, BROADCASTING & CABLE: The Business of Television, available at <http://www.broadcastingcable.com/article/CA6268924.html?display=Breaking+News&referral=SUPP>.

³³⁸ EchoStar Communications Corp., *DISH Network's MobileDISH™ Provides Travelers with their Favorite TV Programs While on the Road*, (press release), Jan. 8, 2007.

³³⁹ The term BSP is not intended to imply anything with respect to Commission's policy or proceedings that might involve broadband services. Usually, the services of a BSP can be purchased separately as well as in a bundle. See *2001 Report*, 17 FCC Rcd at 1296-97 ¶ 3; *2002 Report*, 17 FCC Rcd at 26948-52 ¶¶ 102-11. See also BSPA Comments at 2-4. BSPs include companies such as RCN, Champion Broadband, Knology, and SureWest Communications.

³⁴⁰ *2004 Report*, 20 FCC Rcd at 2801 ¶ 70.

cable is limited to relatively few markets.

101. The Broadband Service Providers Association (“BSPA”) states that the BSPs, all of whom have entered the marketplace since the 1996 Act, have operations in nearly half the states, with nearly 10 million homes under active franchises.³⁴¹ Constructed systems currently pass 4.1 million homes, and the companies associated with BSPA have 1.2 million customers.³⁴² According to BSPA, BSPs have an average residential penetration rate of 29 percent.³⁴³

102. BSPs are seeking to compete by offering bundles of service which include telephony and high-speed Internet service, as well as various video offerings.³⁴⁴ BSPA asserts that the BSP model has expanded the deployment of advanced services to the average consumer and, because BSPs provide a combination of video, voice, and Internet service, the companies need not attain the highest market share for any one service to maintain healthy operations.³⁴⁵ In at least one case, a BSP also is entering into agreements to allow it to offer wireless service in order to offer even more extensive bundles of service.³⁴⁶ Among existing BSP customers, BSPA reports that 89 percent subscribe to video, 51 percent subscribe to telephone service, and 63 percent subscribe to high-speed Internet access service. BSPA also reports that, on average, more than 32 percent of BSP customers buy all three core services (*i.e.*, video, voice, and data); some BSPs report that more than 50 percent of their customers take all three services.³⁴⁷

103. BSPA cites a U.S. Government Accountability Office (“GAO”) report that studied six market pairs for which one market of each pair was served by a BSP overbuilder, and the other was not.³⁴⁸ The 2004 GAO Report found that communities with overbuild competition experienced lower rates (an average of 23 percent lower for basic cable) and higher quality service than did other communities.³⁴⁹ Additionally, BSPA highlights a 2005 GAO study that examined overbuild video systems.³⁵⁰ The report

³⁴¹ BSPA Comments at 6.

³⁴² *Id.* at 6.

³⁴³ *Id.* at 7.

³⁴⁴ *Id.* at 7.

³⁴⁵ *Id.* at 2-4. See also Comcast Comments at 43-45 (citing past financial difficulties of some BSPs, noting that they have rebounded and are expanding their service offerings to attract new customers).

³⁴⁶ RCN Corp., *RCN Wireless Powers Up Cable/Internet/Telephone Customers in Boston* (press release), Sept. 27, 2006.

³⁴⁷ BSPA Comments at 7.

³⁴⁸ *Id.* at 4 citing GAO, *Telecommunications: Wire-Based Competition Benefited Consumers in Selected Markets*, GAO-04-241, Feb. 2004 (*GAO 2004 Report*). See also *2005 Report*, 21 FCC Rcd at 2550 ¶ 91.

³⁴⁹ BSPA Comments at 4-5 citing GAO, *Telecommunications: Wire-Based Competition Benefited Consumers in Selected Markets*, GAO-04-241, Feb. 2004 (*GAO 2004 Report*). See also *Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as amended by the Cable Television Consumer Protection and Competition Act of 1992*, 22 FCC Rcd 5101(2007); *Exclusive Service Contracts for Provision of Video Services in Multiple Dwelling Units and Other Real Estate Developments*, 22 FCC Rcd 5935 (2007).

³⁵⁰ BSPA Comments at 8. GAO, *Direct Broadcast Satellite Subscribership Has Grown Rapidly, but Varies Across Different Types of Markets*, GAO-05-257, Apr. 2005 (*GAO 2005 Report*). The *GAO 2005 Report* studies how DBS penetration varies across different types of markets (rural, suburban, and urban) and against different types of cable (continued....)

states that DBS penetration varies depending on the type of community (*i.e.*, urban, rural, or suburban) and the technical sophistication of the cable competitor and/or the presence of an overbuilder. BSPA maintains that DBS is not as direct a substitute for an incumbent cable operator as is another wireline MVPD such as a BSP, and that the variation of DBS penetration across communities indicates that the Commission should not accept cable industry arguments that cable is no longer dominant in the MVPD marketplace.³⁵¹ BSPA calls upon the Commission to monitor and analyze DBS competition as GAO did in the *GAO 2005 Report*, and to reject the notion that markets are not competitive until such time as competitors achieve a market share of 25-30 percent.³⁵² BSPA also reports that BSPs continue to face significant barriers to entry.³⁵³

D. Broadcast Television Service

1. General Performance

104. Broadcast networks and local stations supply video programming over the air to consumers. Consumers who do not subscribe to an MVPD service rely on the over-the-air transmission for reception of local broadcast television signals for video services. Many MVPD households receive broadcast television programming over the air on television receivers that they have chosen not to connect to the service. In addition, most U.S. consumers receive broadcast signals via their cable, DBS, or other MVPD service.

105. As we reported last year, broadcast television stations' audience shares have continued to fall. For the 2005-2006 television season, broadcast television stations accounted for a combined average 45 share of prime time viewing among all television households, compared to a 48 share in the previous season.³⁵⁴ Broadcast stations achieved a 40 share of all-day (24-hour) viewing during the 2005-2006 season, down from a 41 share the previous season. In contrast, nonbroadcast channels' collective audience share continues to grow. In the 2005-2006 television season, nonbroadcast channels³⁵⁵ accounted for a combined average 55 share of prime time viewing among all television households, up from the 53 share in the previous season.³⁵⁶ Nonbroadcast channels accounted for a 60 share of all-day viewing, up from a 59 share in the previous season.³⁵⁷

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systems (not upgraded, partially upgraded, and fully upgraded). The report finds that DBS penetration is highest in rural areas and lowest in urban, and highest in areas served by a cable system that has not been upgraded and lowest in areas served by a cable system that has been fully upgraded.

³⁵¹ BSPA Comments at 8-11.

³⁵² *Id.* at 10.

³⁵³ *Id.* at 11-16.

³⁵⁴ Nielsen Media Research, *Broadcast Calendar (TV Season) Share of Audience Report, Prime Time and Total Day*, Dec. 2006. A share is the percent of all households using television during the time period that are viewing the specified station(s) or network(s). Due to simultaneous multiple-set viewing, Nielsen reports audience shares that exceed 100 percent when totaled. We have normalized the reported audience shares by recalculating them on a base (or denominator) equaling 100 percent, and adjusting the numerators accordingly.

³⁵⁵ Includes basic (BST and CPST) networks, as well as premium and PPV networks, distributed by MVPDs.

³⁵⁶ Nielsen Media Research, *Broadcast Calendar (TV Season) Share of Audience Report, Prime Time and Total Day*, Dec. 2006.

³⁵⁷ *Id.*

106. Since the *2005 Report*, the number of commercial and noncommercial television stations rose from 1,747 as of June 30, 2005, to 1,753 as of June 30, 2006.³⁵⁸ Total television broadcast advertising revenues declined 2.4 percent from \$47.2 billion in 2004 to \$46.1 billion in 2005.³⁵⁹ Advertising revenue for the seven most widely distributed broadcast networks (ABC, CBS, Fox, NBC, PAX, UPN, and WB)³⁶⁰ was estimated at \$25 billion in 2005, a slight increase over the \$24.9 billion earned in 2004.³⁶¹ Nonbroadcast programming networks fared somewhat better, experiencing an 11.4 percent increase in advertising revenue in 2005; they earned \$18.2 billion in advertising revenue compared to \$16.3 billion in 2004.³⁶²

2. Digital Television

107. DTV allows broadcasters to use a single 6 MHz channel to transmit a high-definition television (“HDTV”) signal, several standard-definition television (“SDTV”) signals (*i.e.*, multicasting), or ancillary services in addition to video programming.³⁶³ As of January 2007, approximately 1,600 stations nationwide were on the air with DTV operations, including all 119 stations affiliated with the top-four network affiliates in the top 30 television markets.³⁶⁴ As the transition of the nation’s broadcast television system from analog to digital television (“DTV”) nears completion, most, though not all, broadcasters are required to operate both analog and digital facilities until February 17, 2009, at which time all full-power television broadcast stations must cease their analog transmissions.³⁶⁵

a. Over-the-Air Households

108. Estimates of the number of television households that rely exclusively on over-the-air television broadcasts to receive video programming vary by source, but all estimates indicate that less

³⁵⁸ Federal Communications Commission, *Broadcast Station Totals as of June 30, 2005*, at <http://www.fcc.gov/mb/audio/totals/bt050630.html>; Federal Communications Commission, *Broadcast Station Totals as of June 30, 2006*, at <http://www.fcc.gov/mb/audio/totals/bt060630.html>.

³⁵⁹ Television Bureau of Advertising, *2005 TV Ad Revenue Figures*, at http://www.tvb.org/rcentral/adrevenue/track/revenue/2005/ad_figures_1.asp (visited Jan. 24, 2007).

³⁶⁰ CBS Corporation has merged its UPN network with Time Warner’s WB network to form a new network called The CW. CBS Corp., *CBS Corp and Warner Bros. Entertainment Form New 5th Broadcast Network* (press release), Jan. 24, 2007. In July 2005, Pax TV changed its name to i:Independent Television, and then to Ion Television in January 2007.

³⁶¹ *Id.*

³⁶² Robert J. Coen, *Insider’s Report-Advertising Expenditures*, Universal McCann, June 28, 2006.

³⁶³ *Review of the Commission’s Rules and Policies Affecting the Conversion to Digital Television*, 17 FCC Rcd 15978, 15995-96 ¶¶ 39-40 (2002).

³⁶⁴ *Summary of DTV Applications Filed and DTV Build Out Status*, at <http://www.fcc.gov/mb/video/files/dtvsum.html> (visited Jan. 24, 2007).

³⁶⁵ See *Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, 21 FCC Rcd 12100 (2006); *The Digital Television and Public Safety Act of 2005* (“DTV Act”), amends Section 309(j)(14) of the Communications Act to establish February 17, 2009, as a new hard deadline for the end of analog transmissions by full-power stations. See Deficit Reduction Act of 2005, Pub. L. No. 109-171, 120 Stat. 4 (2006) (“DRA”). Title III of the DRA is the DTV Act. See also 47 U.S.C. § 337(e).

than 20 percent of U.S. households rely exclusively on over-the-air broadcasts to receive television. For example, on March 1, 2005, the Media Bureau released a staff report concerning over-the-air broadcast viewers ("*OTA Report*").³⁶⁶ At the time the *OTA Report* was released, the Commission estimated that about 14.86 percent of television households relied exclusively on over-the-air television broadcasts to receive video programming.³⁶⁷ Nielsen estimates that, as of January 2007, 15.5 million households, or about 14 percent of the 111.4 million total U.S. television households, rely on over-the-air television broadcasts for video programming.³⁶⁸ Commenters in this proceeding also provide estimates of the number of television households relying solely on over-the-air television reception. NAB, for example, estimates that there are as many as 19.6 million households containing 45.5 million television sets that do not subscribe to an MVPD and that there are an additional 14.7 million MVPD households with 23.5 million television sets that are not connected to MVPD service.³⁶⁹ CEA estimates that approximately 13 percent of all television households receive their broadcast television signals over the air.³⁷⁰ NCTA notes that at least 14 percent of television households do not subscribe to an MVPD.³⁷¹

b. Programming

109. *Programming Available Over the Air.* NAB indicates that the four major broadcast networks (ABC, CBS, Fox, and NBC) currently provide their most popular programming in high definition.³⁷² Broadcasters also transmitted special events, such as the Academy Awards and numerous major sporting events in HD format over the past year.³⁷³ In addition, 1,600 local stations are broadcasting digital signals, including digital multicast, with some broadcasting their local news in HD

³⁶⁶ *Media Bureau Staff Report Concerning Over-the-Air Broadcast Television Viewers* (MB Feb. 28, 2005) ("*OTA Report*"), available at http://fjallfoss.fcc.gov/edocs_public/attachmatch/DOC-257073A1.pdf.

³⁶⁷ *See id.* *See also 2004 Report*, 20 FCC Rcd at 2869-70 Appendix B, Table B1. The Commission's estimates of households that do not subscribe to an MVPD service may include a number of households that are using MVPD service without paying for it, and thus overstate the number of OTA households. On the other hand, estimates of MVPD households may be overstated considering that as many as three percent of television households may subscribe to both cable and DBS services. The net effect of these inaccuracies is unknown. In addition, these figures are based on a nationwide average. It appears that the percent of OTA households varies substantially from one market to another. For example, in ten DMAs, over 80 percent of TV households subscribe to cable service. When DBS subscribers to local-into-local service are added, the total MVPD subscribership in most of these markets exceeds 85 percent. In contrast, in 13 DMAs, fewer than 50 percent subscribe to cable. *Id.* at 2872.

³⁶⁸ Nielsen Media Research, *National Universe Estimates*, Jan. 2007, at 1. This percentage is based on Nielsen's estimate of TV households for the 2006-2007 television season, September 2006-August 2007.

³⁶⁹ NAB Comments at 2. NAB states that those households relying solely on over-the-air broadcasting are predominantly lower income and include relatively greater numbers of racial and ethnic minorities. *See also* NAB Comments at 3.

³⁷⁰ CEA Comments at 7.

³⁷¹ NCTA Comments at 18.

³⁷² NAB Comments at 6.

³⁷³ *Id.*

format.³⁷⁴ In 2006, PBS distributed 144 hours of high-definition content per month to its member stations.³⁷⁵ In addition, American Public Television (“APT”) supplied 91 hours of HD programming each month to its member public television stations.³⁷⁶ Public television stations also are broadcasting multiple program streams to bring new services to the public that could not be made available using a single analog stream.³⁷⁷

110. **Programming Available Through MVPDs.** NCTA reports that, as of June 2006, local cable systems were carrying the digital signals of 788 individual broadcast stations, and cable operators offered over 25 nonbroadcast networks that transmit much of their programming in HD format.³⁷⁸ NCTA avers that an agreement entered into between cable operators and public television stations in 2005 continues to ensure that local public television digital programming is being carried on cable systems throughout the country.³⁷⁹ In addition, DBS systems are expanding their carriage of local HDTV stations. For example, as of January 2007, DIRECTV offered local HD broadcast channels in 49 cities, constituting more than 65 percent of all U.S. television households.³⁸⁰ DIRECTV has announced that new satellite launches in 2007 will give it the ability to deliver more than 1,500 local HD and digital channels.³⁸¹ In 2006, DISH Network expanded its carriage of local HD channels from five to 24 cities, and has announced plans to expand into additional cities nationwide.³⁸²

111. APTS states that the Commission should ensure that public television digital programming is carried on DBS.³⁸³ APTS notes that, while DBS providers have introduced both national

³⁷⁴ *Summary of DTV Applications Filed and DTV Build Out Status*, at <http://www.fcc.gov/mb/video/files/dtvsum.html> (visited Jan. 25, 2007). See also NAB Comments at 7-8.

³⁷⁵ APTS Comments at 5-6.

³⁷⁶ *Id.*

³⁷⁷ *Id.*

³⁷⁸ NCTA Comments at 28-29.

³⁷⁹ In April 2005, public television and cable operators serving over 80 percent of cable subscribers in markets comprising over 80 percent of U.S. TV households entered into an agreement providing for the carriage of public television stations’ digital programming (including multicast channels) by cable operators. See NCTA Comments at 29.

³⁸⁰ *DIRECTV to Offer 100 National HD Channels in 2007* (press release), at <http://www.directv.com/DTVAPP/global/contentPage.jsp?assetId=P4130030> (visited Feb. 5, 2007).

³⁸¹ *Id.*

³⁸² *DISH Network Launches Local TV Stations in High Definition via Satellite in 11 Cities* (press release), at <http://phx.corporate-ir.net/phoenix.zhtml?c=68854&p=irol-newsArticle&ID=858026&highlight=> (visited Feb. 5, 2007).

³⁸³ APTS Comments at 26-34. In a similar vein, we note that CBA states that virtually all viewing of Class A and low power television (“LPTV”) stations is over-the-air, and urges the Commission to ensure that this “most local” of broadcast services is not cut off from the dominant media distribution technologies. CBA states that Class A and LPTV stations generally do not have mandatory carriage rights on cable systems and do not have mandatory carriage rights on broadcast satellites. Furthermore, MVPDs are not required to negotiate in good faith with Class A and LPTV stations regarding retransmission consent. CBA avers that Class A and LPTV stations have a wide range (continued...)

and local digital programming in several markets, digital signals of local public television stations are not yet carried on DBS.³⁸⁴ Similarly, APTS argues that the Commission should ensure that new LEC video providers carry the digital signals of local public television stations, asserting that new LEC entrants' broadband networks have more than enough capacity to accommodate such programming.³⁸⁵ APTS states that it has reached an agreement with Verizon whereby its FiOS video service will carry the full digital signal of up to three public television stations within the system's service area, including PBS and local public stations' HDTV programming and digital multicasts.³⁸⁶ In addition, in March 2006, Verizon and CBS entered into an agreement under which FiOS agreed to carry CBS television stations and local VOD content.³⁸⁷

112. **Multicasting.** Multicasting is the process by which multiple streams of digital television programming are transmitted at the same time over a single broadcast channel. In the *Notice*, we requested information on the content provided using broadcasters' DTV spectrum, including the use of multicasting, and whether cable operators and other MVPDs are carrying multicast DTV programming.³⁸⁸ NAB states that the conversion to digital is "revolutionizing broadcast television service by enabling stations to offer consumers new program choices, high quality video and audio, and advanced features at no cost to the public."³⁸⁹ Comcast states that digital technology has enabled broadcasters to multicast their own multichannel programming, thereby offering consumers additional choices while generating more advertising revenue from these new channels.³⁹⁰

113. NAB indicates that, in addition to providing HD format programming, approximately 780 local stations (including stations in medium and small markets) are using their digital channels for multicast services, an increase of nearly one-third over those that did so in November 2005.³⁹¹ This multicast programming includes local news, weather, sports, religious material, and ethnic oriented programming.³⁹² NAB states that broadcasters also have begun to use their digital capacity to provide innovative entertainment programming to consumers, such as a multicast channel that provides DVD-like features for CBS's leading network shows.³⁹³ APTS notes that public television stations are taking

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of ownership, and are often licensed to small communities or to serve niche audiences in larger communities. CBA notes that these are the only class of broadcast services required by statute to provide a minimal amount of locally produced programming, and that these stations provide highly local information, including emergency information. See CBA Comments at 1-2.

³⁸⁴ APTS Comments at 26-34.

³⁸⁵ *Id.*

³⁸⁶ *Id.*

³⁸⁷ *CBS and Verizon Reach Comprehensive Retransmission Consent Agreement* (press release), at <http://newscenter.verizon.com/proactive/newsroom/release.vtml?id=93326> (visited Feb. 6, 2007).

³⁸⁸ *Notice*, 21 FCC Rcd at 12249 ¶¶ 59-61.

³⁸⁹ *NAB Consumer Electronics and Broadcast Industries Present Consensus Position on Digital TV Transition to U.S. Commerce Department's NTIA* (press release), at http://www.nab.org/AM/Template.cfm?Section=Search_Archives&template=/CM/HTMLDisplay.cfm&ContentID=6843 (visited Feb. 7, 2007).

³⁹⁰ Comcast Comments at 38-39.

³⁹¹ NAB Comments at 7-8.

³⁹² NAB Comments at 7-8. See also APTS Comments at 4-7.

³⁹³ NAB Comments at 7-8.