



The Case for Satellite Carriage of Digital Television Broadcast Signals

In light of the significant public interest benefits of noncommercial educational digital services, public television respectfully requests that satellite companies such as DIRECTV and EchoStar be required to carry all free, over-the-air digital signals where local television stations are being carried pursuant to SHVIA. Carriage should include but not be limited to both high-definition programming and all multicast digital programming.

A. Digital Carriage on Satellite is Authorized by Federal Law

Digital carriage is clearly consistent with the plain language of SHVIA's carry-one / carry-all construct. That provision states in relevant part:

[E]ach satellite carrier providing, under section 122 of title 17, United States Code, secondary transmissions to subscribers located within the local market of a television broadcast station of a primary transmission made by that station shall carry upon request the signals of all television broadcast stations located within that local market[.]¹

Both section 122(j)(5) of the Copyright Act, and Section 338 of the Communications Act define in identical terms what television broadcast stations are eligible to be rebroadcast under this legislative scheme. Both provisions specifically reference all “over-the-air,

¹ 47 U.S.C. § 338(a).

commercial or noncommercial television broadcast station[s] licensed by the Federal Communications Commission under subpart E of part 73 of title 47, Code of Federal Regulations,” exempting only low-power or translator stations (which operate pursuant to part 74 of the Commission’s rules).² As all digital broadcast television stations are licensed under part 73, subpart E,³ this would clearly place those stations within the ambit of SHVIA’s carry-one / carry-all mandate. The fact that only low-power or translator stations were specifically exempted from this provision underscores that no other exemptions were contemplated by the statute—including any purported exemption for digital television signals.⁴

Moreover, a natural reading of the statute should mandate that the carry-one/carry-all scheme apply to the entire digital broadcast signal, including programming in both high definition and multiple standard definition streams. As the Commission has recently made clear in a related proceeding, when the Satellite Home Viewer

² See 17 U.S.C. § 122(j)(5) and 47 U.S.C. § 338(k)(8) [referencing 47 U.S.C. § 325(b)(7)].

³ The DTV table of allotments is located at § 73.622 within subpart E of part 73 of the Commission’s rules. See 47 C.F.R. § 73.622.

⁴ In this regard, it is traditional principle of statutory construction that where a statute contains specific exceptions no other exceptions are to be implied. Sutherland Stat. Const. § 45.11 (6th Ed.) (collecting cases) and Andrus v. Glover Constr. Co., 446 U.S. 608, 616-617 (1980). Although SHVIA’s legislative history indicates that Congress did not take any position regarding mandatory carriage of digital signals by satellite carriers, neither is there any evidence that digital signals were intended to be excluded. See Joint Explanatory Statement of the Committee of Conference on H.R. 106-1554, 145 Cong. Rec. at H11792, H11795 (Daily ed. Nov. 9, 1999). In addition, although Congress recently updated the law through the Satellite Home Viewer Extension and Reauthorization Act (SHVERA) to allow for carriage of significantly viewed signals and to require digital carriage in Alaska and Hawaii, importantly, much of the plain language of the carriage provisions remained the same. See The Satellite Home Viewer Extension and Reauthorization Act of 2004 (SHVERA) was enacted on December 8, 2004 as Division J, Title IX of the “Consolidated Appropriations Act, 2005,” Pub. L. No. 108-447, 118 Stat. 2809 (2004). In fact, Congress enacted a specific provision ensuring that the Commission’s authority regarding the DTV transition would remain unchanged. See SHVERA, Section 212: “SEC. 212. DIGITAL TRANSITION SAVINGS PROVISION. Nothing in the dates by which requirements or other provisions are effective under this Act or the amendments made by this Act shall be construed-- (1) to impair the authority of the Federal Communications Commission to take any action with respect to the transition by television broadcasters to the digital television service; or (2) to require the Commission to take any such action.”

Improvement Act, as amended and extended by the Satellite Home Viewer Extension and Reauthorization Act (SHVERA), refers to television broadcast “signals,” the use of the plural term “unambiguously mean[s] carriage of the entire free over-the-air digital broadcast, without limitation, being transmitted by a broadcaster.”⁵ Although the Commission addressed its conclusion to one part of Section 338 as it relates to carriage in Hawaii and Alaska,⁶ the reasoning applies equally well to another portion of Section 338 that applies to the rest of the country.⁷ Thus, at Section 338(a)(1), the statute refers to the same plural construction, namely “the *signals* of all television broadcast stations located within that local market.”⁸ To hold otherwise would be to refuse to read two portions of the same statute *in pari materia*.⁹ In addition, to hold otherwise would be to impose an absurd construction on the statute, namely that the plural of the same word means different things in different places within the same section. It also would result in the same word meaning different things in different parts of the country as well. For these reasons, the Commission should ensure full carriage of all HD and multiple SD content carried on the signals of all television broadcast stations carried pursuant to Section 338.

⁵ Implementation of Section 210 of the Satellite Home Viewer Extension and Reauthorization Act of 2004 to Amend Section 338 of the Communications Act, Report and Order, FCC 05-159, ¶ 16 (August 23, 2005) (interpreting 47 U.S.C. § 338(a)(4) as amended by Pub. L. No. 108-447, § 210, 118 Stat. 2809 (2004)).

⁶ *Id.*

⁷ 47 U.S.C. § 338(a)(1).

⁸ 47 U.S.C. § 338(a)(1) (emphasis added).

⁹ *See* NORMAN J. SINGER, STATUTES AND STATUTORY CONSTRUCTION § 51.02 (6th ed. 2000) (statutes on same subject should be construed together).

B. Digital Carriage on Satellite Will Speed the Digital Transition

In addition, digital carriage on satellite will aid in further speeding up the digital transition in this country. Analog broadcast television service is scheduled to be turned off at the end of 2006 unless 15 percent or more households cannot receive digital broadcast signals either over the air or through cable or satellite.¹⁰ Satellite subscribers account for over 20 percent of all TV households on average,¹¹ and this figure is significantly higher in some markets. Accordingly, it is vitally important that satellite subscribers have access to digital broadcast signals in order for the digital transition to be a success within a reasonable period of time. In this regard, shortening the digital transition is especially important to public broadcasters, which must shoulder the substantial cost of dual analog-digital operations for an unknown period of time during the transition to digital.

C. Digital Carriage on Satellite is Consistent with Federal Policy Mandating that Public Television Has Access to All Telecommunications Technologies

Moreover, Congress has established the consistent federal policy that public television stations should have access to all telecommunications technologies, including satellite-delivered services.¹² Within the cable context, Congress explicitly concluded

¹⁰ 47 U.S.C. §309(j)(14)(B).

¹¹ Federal Communications Commission, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, 11th Annual Report, FCC 05-13, Table B-1 (2005).

¹² Congress has stated, for instance, that “it is in the public interest for the Federal Government to ensure that all citizens of the United States have access to public telecommunications services through all appropriate available telecommunications distribution technologies.” 47 U.S.C. § 396(a)(9).

that “the Federal Government has a substantial interest in making all nonduplicative local public television services available” (a) because public television provides educational and informational programming to the nation’s citizens, thereby advancing the Government’s compelling interest in educating its citizens; (b) because public television stations are intimately tied to their communities through substantial investments of local tax dollars and voluntary citizen contributions; (c) because the Federal government has invested substantially in the public broadcasting system; and (d) because without carriage requirements there is a substantial likelihood that citizens, who have supported local public television services, will be deprived of those services.¹³ The reasons for this policy apply with equal force, regardless of whether the public television station is broadcasting in either analog or digital format.

D. Satellite Carriers Have Plans to Carry, and Will Soon Possess Sufficient Capacity to Carry, Digital Signals

While both satellite carriers have claimed that they lack the capacity to rebroadcast the digital signals of each local station in each of the 210 local markets,¹⁴ both satellite companies are rushing to expand on their already substantial satellite capacity to provide more digital television programming in order to compete with cable. In this regard, it is undeniable that satellite carriers will soon possess the capacity to rebroadcast the digital signals of each local station in many of the 210 local markets.

¹³ Cable Television Consumer Protection and Competition Act of 1992, Pub. L. No. 102-385, 106 Stat. 1460 (1992), Section 2(a)(8).

¹⁴ See, e.g., Ex Parte Notice from Echostar, CS Docket No 98-120 (January 31, 2003); Ex Parte Notice from DIRECTV, CS Docket Nos. 98-120, 00-96 (February 25, 2003).

For instance, early this year, DIRECTV again publicly stated in its Securities and Exchange Commission filings that one of its strategic goals is to expand HDTV programming to carry “more than 1,500 local and 150 national high-definition channels to all U.S. television households” through five additional satellites.¹⁵ DIRECTV currently holds licenses to broadcast from 46 of 96 DBS frequencies allocated to it and holds an additional 64 Ka-band licenses as well.¹⁶ It operates a fleet of seven satellites from its 72.5°, 101°, 110° and 119° WL orbital slots and leases an additional satellite at 95° WL.¹⁷ As part of its programming expansion strategy, the company will operate a total of seven new satellites, including the following:

Satellite	Status
SPACEWAY 1	Launched 2005 ¹⁸
SPACEWAY 2	Expected launch 2 nd half of 2005 ¹⁹
DIRECTV 10	Expected launch 2007 ²⁰
DIRECTV 11	Expected launch 2007 ²¹
DIRECTV 8	Launched 2005 (replacement for DIRECTV 2) ²²
DIRECTV 9S	Expected launch 2006 (backup for DIRECTV 4S AND 7S) ²³

¹⁵ DIRECTV Group, Inc., Form 10-K, Securities and Exchange Commission, p. 6 (March 31, 2005).

¹⁶ Id. at p. 5 and Letter from Dianne Smith, Special Projects Counsel, Capitol Broadcasting Company, to Marlene H., Dortch, CS Docket 98-120. pp. 4-5 (July 28, 2005).

¹⁷ DIRECTV Group, Inc., Form 10-K, Securities and Exchange Commission, p. 8. (March 31, 2005).

¹⁸ DIRECTV Group, Inc, Form 10-Q, Securities and Exchange Commission, p. 36 (August 5, 2005).

¹⁹ Id.

²⁰ DIRECTV Group, Inc., Form 10-K, Securities and Exchange Commission, p. 9 (March 31, 2005).

²¹ Id.

²² DIRECTV Group, Inc, Form 10-Q, Securities and Exchange Commission, p. 36 (August 5, 2005).

²³ DIRECTV Group, Inc., Form 10-K, Securities and Exchange Commission, p. 8 (March 31, 2005).

DIRECTV 12S	Under construction as ground spare ²⁴
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DIRECTV plans to roll out HD delivery of local channels in 12 markets in the Fall of 2005,²⁵ including the following: New York City, Los Angeles, Chicago, Philadelphia, Boston, San Francisco, Dallas, Washington, Atlanta, Detroit, Houston and Tampa.²⁶ By the end of 2005, DIRECTV expects to have local HD carriage in 30-40 markets.²⁷

Similarly, EchoStar also has plans to significantly expand its already extensive capacity to carry local digital signals.²⁸ EchoStar has acquired the rights to Voom's HD networks, has already added 10 of those 21 networks to its slate of HD programming, and expects to carry the remaining channels in early 2006.²⁹ EchoStar CEO Charlie Ergen has stated that its current technological assets will allow the company to carry approximately "50 HD channels and 20 local markets, up from the 20 national channels they provide now."³⁰ Alternatively, EchoStar could provide 30 local markets and 30

²⁴ Id. at p. 33.

²⁵ Mark Seavy, "DIRECTV Readies Local HD Rollout in 12 Markets in Fall," *Communications Daily* (March 31, 2005).

²⁶ *Satellite, Communications Daily* (April 27, 2005).

²⁷ Mark Seavy, "DIRECTV Expects to Have Local HD Available in 30-40 Markets." *Communications Daily* (June 2, 2005) (quoting DIRECTV CEO Chase Carey).

²⁸ EchoStar has stated that it has plans after the DTV transition to "make available the down-converted HDTV feed of the local stations in the same number of DMAs [in which it is currently providing local service] that will be served at that time." Reply Comments of EchoStar, MB Docket 04-210, p. 9.

²⁹ Adrienne Kroepsch, "EchoStar Wants to 'See the Playing Field' Before Making HDTV and Broadband Bets," *Communications Daily* (May 6, 2005) (quoting EchoStar CEO Charlie Ergen).

³⁰ Id.

national channels instead. Either way, Mr. Ergen has committed that there will be more HD capacity “on the way each year.”³¹

Like its competitor, EchoStar possesses substantial spectrum and infrastructure assets. EchoStar currently has licenses to transmit on 96 DBS frequencies and has or leases additional licenses in the FSS band for 56 additional frequencies.³² In addition, EchoStar was the winning bidder for the remaining 29 DBS frequencies at the 157 degree orbital location at the FCC auction conducted in July of 2004.³³

The company owns and operates nine in-orbit satellites and leases an additional three satellites from SES Americom.³⁴ Two of those SES Americom satellites have HD capabilities: AMC-15 and AMC-16.³⁵ EchoStar also has contracts for the construction and launch of four new satellites of unspecified technical capacity: EchoStar 10 (expected launch at end of 2005); EchoStar 11 (expected construction final by 2007); and two additional satellites (expected construction final by 2008).³⁶ In addition, EchoStar has entered into satellite service agreements to lease capacity on two additional satellites that are under construction. One will be an SES Americom satellite (expected launch date 2006); and the other a satellite whose operator is unspecified (expected launch date 2006).³⁷

³¹ Id.

³² EchoStar Communications Corp, Form 10-K, Securities and Exchange Commission, pp.5-6 (March 16, 2005).

³³ Id. at p. 6.

³⁴ Id. at p. 5.

³⁵ Satellite, Communications Daily (April 27, 2005) (“EchoStar is leasing 2 satellites with HD capabilities from SES Americom, AMC-15 and AMC-16”).

³⁶ EchoStar Communications Corp. Form 10-K, Securities and Exchange Commission, p. 8-9 (2005).

³⁷ Id. at p. 10.

Other additional EchoStar spectrum assets include the following:

- Newly approved licenses for two new satellites in the “extended Ku-band,” at 109° (32 transponders) and 121° (16 transponders) WL, an expansion which it admits is designed to deliver more local high-definition television programming.³⁸
- Ka-band licenses at 97°, 113° and 117° WL.³⁹
- The purchase of 11 DBS frequencies at 61.5° from Cablevision’s HD satellite VOOM service (using the Rainbow 1 satellite).⁴⁰
- A sublease of six transponders at 61.5 from licensee Dominion Video Satellite, Inc.⁴¹

No doubt, the present and future spectrum holdings of these satellite companies are by any stretch of the imagination quite substantial and will allow both EchoStar and DIRECTV to devote considerable capacity for the rebroadcast of digital signals.

Moreover, recent technical submissions to the FCC and Congress have demonstrated that there are additional technologically feasible means to deliver terrestrial

³⁸ See In the Matter of EchoStar Satellite LLC Application for Authority to Construct, Launch and Operate a Geostationary Satellite Using the Extended Ku-band Frequencies in the Fixed-Satellite Service at the 109° W.L. Orbital Location, Order and Authorization, DA 04-3163, ¶ 2 (Sept. 30, 2004). This satellite will operate with 32 transponders each of 27 megahertz useable bandwidth, allowing for full frequency reuse of the 500 megahertz downlink frequencies and four-fold frequency reuse of the 250 megahertz uplink frequencies. Id at ¶ 3. See In the Matter of EchoStar Satellite LLC Application for Authority to Construct, Launch and Operate a Geostationary Satellite Using the Extended Ku-band Frequencies in the Fixed-Satellite Service at the 121° W.L. Orbital Location, Order and Authorization, DA 04-3164, ¶ 2 (Sept. 30, 2004). This satellite will operate with 16 transponders each of 27 megahertz usable bandwidth. Dual orthogonal polarization will be used to give full frequency reuse of the uplink and downlink spectrum. Id at ¶ 3.

³⁹ EchoStar Communications Corp., Form 10-K, Securities and Exchange Commission, p. 15 (2005).

⁴⁰ Press Release, “EchoStar to Purchase Satellite from Cablevision,” (January 20, 2005) (announcing purchase of Rainbow 1, a direct broadcast satellite located at 61.5 degrees W.L. together with rights to 11 DBS frequencies at that location), available at: http://www.corporate-ir.net/ireye/ir_site.zhtml?ticker=dish&script=410&layout=-6&item_id=665115. The satellite includes 13 frequencies, up to 12 of which can be operated in "spot beam" mode. Id. Rainbow also recently paid \$3.2 million at auction for a DBS license at 175° WL and \$3.2 million for a DBS license at 166° WL, properties that were not apparently bought by EchoStar. Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Eleventh Video Competition Report, FCC 05-13, ¶ 62 (February 4, 2005) (“Eleventh Video Competition Report”). In addition, VOOM has contracted with Lockheed Martin for the construction of five Ka-band satellites to be operated at orbital locations 62° WL, 71° WL, 77° WL, 119° WL, and 129° WL. Eleventh Video Competition Report, at ¶ 63.

⁴¹ EchoStar Communications Corp., Form 10-K, Securities and Exchange Commission, p. 15 (2005).

digital signals via satellite.⁴² For instance, the National Association of Broadcasters has argued that satellite firms have available to them a wide range of potential new techniques for expanding their capacity,⁴³ including the following:

- **Spectrum sharing between DIRECTV and EchoStar either directly or through a third-party intermediary.**⁴⁴ This could include the use of a shared satellite operated by an independent entity. In this regard, Section 108 of SHVERA establishes a fast-track processing requirement at the Department of Justice for antitrust review of any arrangement between two or more satellite providers that wish to cooperate in bringing local-into-local service into a market.⁴⁵
- **Use of Ka-band as well as Ku-band spectrum.** Based on its extensive experience in this field, Capitol Broadcasting recently stated that “[U]sing technology now available, or that will be available during calendar 2004, both EchoStar and DIRECTV could each deliver ALL full-power 19.4 digital stations using only one of their Ka-band orbital slots and two spot beam satellites.”⁴⁶
- **Higher-order modulation and coding and compression.** The FCC recently observed that the use of MPEG-4 encoding and 8PSK modulation could yield significant capacity enhancements.⁴⁷ Recently, DIRECTV has signed a deal

⁴² See Reply Comments of the National Association of Broadcasters, Federal Communications Commission, MB Docket No. 03-172 (Sept. 26, 2003); and Letter from Dianne Smith, Capitol Broadcasting Company to Marlene Dortch, Federal Communications Commission, CS Docket 98-120 and MB Docket 03-15 (January 22, 2004). See also Written Testimony of Robert G. Lee, President and General Manager of WDBJ-TV, on behalf of the National Association of Broadcasters, Subcommittee on Courts, the Internet, and Intellectual Property, Committee on the Judiciary, United States House of Representatives, pp. 20-22 (February 24, 2004).

⁴³ Written Testimony of Robert G. Lee, President and General Manager of WDBJ-TV, on behalf of the National Association of Broadcasters, Subcommittee on Courts, the Internet, and Intellectual Property, Committee on the Judiciary, United States House of Representatives, p. 21 (February 24, 2004).

⁴⁴ See, e.g., Letter from Dianne Smith, Capitol Broadcasting Company to Marlene Dortch, Federal Communications Commission, CS Docket 98-120 and MB Docket 03-15 (January 22, 2004).

⁴⁵ Division J, Title IX of the “Consolidated Appropriations Act, 2005,” Pub. L. No. 108-447, 118 Stat. 2809, Div. J, Title IX, Section 108 (2004), codified at 17 U.S.C. § 119(f).

⁴⁶ Letter from Dianne Smith, Capitol Broadcasting Company to Marlene Dortch, Federal Communications Commission, CS Docket 98-120 and MB Docket 03-15 (January 22, 2004).

⁴⁷ Further video capacity enhancements will come from a gradual migration to advanced transmission codecs such as MPEG-4, higher order modulations such as 8PSK, and the use of new frequency bands.” Eleventh Video Competition Report, at ¶ 63.

with Tanberg for HD advanced compression technology using MPEG-4 enabled transponders.⁴⁸

- **Closer spacing of Ku-band DBS satellites.** Currently, DBS satellites in the Ku-band are licensed at approximately 9° apart. The FCC has sought comment on allowing shorter orbital spacing between satellites, i.e. 4.5° apart, which could substantially increase the number of DBS satellites operating over the United States.⁴⁹ This issue is pending at the Commission and should be resolved in favor of closer spacing if the Commission determines that interference between satellites operating at closer spaced orbital locations would not be an issue.
- **Satellite dishes pointed at multiple orbital slots.** This would involve the use of larger circular or elliptical dishes (or multiple dishes) capable of receiving signals from more than one satellite. Both DIRECTV and EchoStar use this type of equipment for consumers who subscribe to a HD-package.⁵⁰

In light of the significant public benefits that carriage of digital signals would bring to the American public, the Commission should immediately rule that the plain language of SHVIA's carry-one/ carry-all scheme applies to digital signals just as much as it applies to analog signals. As the technical discussion above demonstrates, both DIRECTV and EchoStar possess or will soon possess ample ability to carry the digital signals of local television stations in all 210 markets in the near future. Moreover, as the digital transition progresses and analog signals cease, more satellite capacity that would ordinarily be occupied by digitized analog feeds could be repurposed to carry additional digital terrestrial feeds, further lessening the impact of mandatory carriage on the satellite infrastructure.

⁴⁸ Communications Daily, Satellite (February 16, 2005).

⁴⁹ See International Bureau Seeks Comment on Proposals to Permit Reduced Orbital Spacings Between U.S. Direct Broadcast Satellites, Public Notice, Report No. SPB-196 (rel. Dec. 16, 2003); and Comments of EchoStar, MB 04-227, p. 3 (July 23, 2004) (discussing feasibility of reduced orbital spacing in the DBS band and its application for four satellites at 4.5° intervals).

⁵⁰ See http://www.DIRECTV.com/DTVAPP/imagine/Imagine_Standard_Receiver.dsp; and Communications Daily, Satellite (May 5, 2003) (discussing EchoStar's "super dish" elliptical receiving dish capable of receiving HD signals from an FCC satellite).