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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW – Room TW-A325
Washington, D.C. 20554

Re: Ex Parte Notice – Consolidated Application of EchoStar Communications Corporation, General Motors Corporation and Hughes Electronics Corporation for Authority to Transfer Control, CS Docket No. 01-348

Dear Ms. Dortch:

In accordance with Section 1.1206 of the Commission's Rules, 47 C.F.R. §1.1206, EchoStar Communications Corporation ("EchoStar"), Hughes Electronics Corporation ("Hughes") and General Motors Corporation ("GM"), Applicants in the above-referenced merger proceeding, submit this letter to report that representatives of the Applicants met, both jointly and independently, with members of the Commission staff on May 15, 2002, to address certain spectrum and technical issues associated with the proposed merger of EchoStar and Hughes.

The representatives of the Applicants who presented information at the meeting included Mike Dugan, President and Chief Operating Officer of EchoStar, Michael Schwimmer, Senior Vice President of Programming of EchoStar, David Baylor, Executive Vice President, Technology and Operations of DIRECTV, Inc. ("DIRECTV") and Larry Chapman, Executive Vice President of Marketing and Advertising of DIRECTV. Other representatives of the Applicants included David Moskowitz, David Goodfriend, David Bair, Michael McDonnell and Rex Povenmire of EchoStar; Larry Hunter and Keith Landenberger of Hughes; Merrill Spiegel of DIRECTV; William Slowey of GM; and Applicants' outside counsel and consultants. FCC staff members who attended the meeting included Barbara Esbin, Marcia Glauberman, Rosalee Chiara, William Cox and Tim May of the Media Bureau; Jim Bird, Harry Wingo, Neil Dellar, Joel Rabinovitz and C. Anthony Bush of the Office of the General Counsel; David Sappington, Donald Stockdale, Sherril Ismail and Marcelino Ford-Livene of the Office of Plans and Policy; Julius Knapp and Bruno Pattan of the Office of Engineering and Technology; and Thomas Tycz,

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Robert Nelson, Douglas Webbink, JoAnn Lucanik and Marilyn Simon of the International Bureau.

The Applicants made a presentation to the Commission staff addressing issues set forth in the attached written materials. Specifically, the presentation addressed Direct Broadcast Satellite ("DBS") spectrum and capacity issues, including: (i) a brief technical overview of the DBS service; (ii) current spectrum utilization and programming duplication by EchoStar and DIRECTV; (iii) the constraints that restrict each company's ability to provide local service to only a limited number of Designated Market Areas ("DMAs"); (iv) the factors that permit the combined entity to implement the "Local Channels, All Americans" plan after the merger; (v) the significant spectrum benefits of the merger that will enable the combined entity to offer more High Definition Television ("HDTV"), near-video on demand ("NVOD"), interactive services, ethnic and international programming, and enhanced service quality; and (vi) the post-merger transition process.

The Applicants first outlined the DBS service configuration, describing the infrastructure and spectrum/orbital resources used to provide the service. They also explained issues associated with using an assigned DBS channel (*i.e.*, transponder) for a national beam, which permits the transmission of approximately 10 channels of video programming to the entire United States, or for spot beams, which permit the transmission of approximately 10 channels of video programming to multiple geographically isolated regions (*e.g.*, a spot beam with 5 times frequency reuse can transmit about 10 channels of video programming to five different regions, or 50 total channels). By employing spot beam technology, EchoStar and DIRECTV are able to provide local broadcast channels to a limited number of cities in the United States. The presentation also addressed issues associated with the use of CONUS and "wing" orbital slots, noting that customers throughout the nation typically can receive a signal from DBS satellites located in the Applicants' CONUS slots (101°W, 110°W and 119°W) but that customers in certain western or eastern portions of the country often have difficulty receiving signals from DBS satellites located in the eastern or western wing slots (61.5°W and 148°W), respectively.¹

The Applicants also outlined their current spectrum usage. EchoStar currently operates under its licenses 50 DBS transponders at the 110°W and 119°W CONUS slots, 24 transponders at the 148°W western wing slot and 17 transponders at the 61.5°W eastern wing slot (including six under a sublease arrangement),² and DIRECTV operates 46 transponders at the 101°W, 110°W and 119°W CONUS slots. The Applicants explained that they presently are

¹ Additionally, reception of DBS signals from slots farther than approximately 20 degrees apart requires the use of an additional receive antenna.

² These numbers exclude DBS channels operated under Special Temporary Authorizations. Many of EchoStar's international and HDTV program offerings are duplicated on the eastern and western wing slots to enable customers in the eastern and western portions of the United States, respectively, to receive those signals.

very close to exhausting their licensed DBS spectrum capacity. The introduction of additional programming generally requires displacement of existing programming or other trade-offs such as sacrificing service quality. The Applicants also highlighted the substantial level of program duplication between EchoStar and DIRECTV, noting that while EchoStar provides 709 channels of programming and DIRECTV provides 739 channels of programming, the vast majority -- currently about 588 -- of those channels are duplicated, resulting in an enormous waste of limited DBS spectrum resources.

The Applicants next discussed the significant differences in the capacity available to DBS systems and cable systems to provide video programming and other services to customers nationally. Because EchoStar and DIRECTV have been licensed to approximately the same number of DBS transponders in CONUS orbital locations (50 and 46, respectively), each has a 100% digital "pipe" into a customer's home of approximately 1.54 Gbps through which all programming and services must travel. However, the use of certain CONUS DBS frequencies to provide local programming reduces the effective throughput for national programming to approximately 1.2 Gbps.³ In contrast, cable systems with which DBS providers compete typically already have moved to 50% digital programming, giving them an effective throughput to the home of 2.25 Gbps. Cable systems that have gone to 100% digital programming have an effective throughput of 4.47 Gbps, and when they upgrade from 750 MHz transmissions to 1,250 MHz transmissions they will have an effective throughput to the home of 8.94 Gbps. Because DBS transmissions already are 100% digital and effective national capacity is decreasing due to the introduction of local broadcast channels in a small number of additional cities, EchoStar and DIRECTV are already at a competitive disadvantage to incumbent cable systems. Specifically, DBS providers have significantly less effective capacity than cable operators available to provide video programming and new services on a national basis. This capacity gap will increase dramatically as cable operators upgrade their systems, and will enable cable incumbents to add a vast array of new services to complement their current programming and high-speed Internet service offerings.

The merger will help address this competitive disadvantage by combining the capacity of EchoStar and DIRECTV, providing the merged entity with an aggregate throughput of approximately 2.9 Gbps for all national programming, and a satellite "pipe" to the home of approximately 2 Gbps after accounting for capacity dedicated to local broadcast channels. Thus, while in no way equivalent to the capacity available to incumbent cable operators, the merger will help level the playing field in the MPVD market by allowing DBS to become a more viable competitor to cable incumbents. Specifically, the merger will provide DBS with additional capacity to provide local broadcast channels in all 210 DMAs, expanded HDTV and specialty

³ The significant reduction in effective throughput to the home results from the aggregate effect of providing local broadcast channels to multiple DMAs from CONUS orbital locations, which necessarily reduces the number of DBS frequencies available for national programming to all customers. In contrast, cable systems devote a small and static percentage of their capacity to local stations because they need to carry only one set of local channels.

programming, and advanced broadband and interactive services, thereby providing a real alternative to cable and helping to address the competitive disadvantages currently confronted by the DBS industry.

The Applicants also explained that the possible availability of new "expansion" DBS spectrum in the United States in April 2007 (assuming significant technical issues associated with its potential use can be overcome) will not address the competitive disadvantages the DBS providers suffer today, which will only become more severe over time. Indeed, by the time expansion DBS spectrum may become available five or more years down the road, the competitive battle between DBS and incumbent cable operators, who have enormous market share and capacity advantages, may already have been lost. Moreover, the possibility of using additional spectrum in five or more years is simply not relevant to the analysis of this merger.

The use of numerous complex and untested satellite technologies also will not resolve DBS capacity constraints. Future satellite technology must be introduced cautiously due to the interrelationship of numerous technical and other factors affecting the provision of DBS service, including satellite power, antenna size, satellite lifetime, orbital spacing, modulation and coding, service costs, customer equipment and customer satisfaction. Of course, given their current capacity constraints, DBS providers remain highly incentivized to employ the most advanced and efficient satellites possible consistent with the provision of reliable and affordable high-quality DBS service to both new and existing customers. Thus, the satellite technology "solutions" proposed by opponents of the merger are unrealistic from both a technical and economic perspective.

For example, the Applicants explained that DBS providers effectively are already near the limits of compression technology using advanced techniques such as statistical multiplexing to vary the level of compression (and thus transponder capacity) devoted to individual programs based on the complexity of video content. Future gains in compression will be limited due to the algorithmic constraints of the MPEG-2 video format used for DBS transmissions. Because any move to new video formats such as MPEG-4 would result in only limited efficiency gains and would require the provision of entirely new set-top boxes, it does not make economic sense to pursue such an expensive alternative for only modest efficiency gains. Moreover, any efficiency gains from digital compression available to DBS providers also would be available to cable providers for their digital programming, resulting in no change to the disparate competitive positions of DBS and cable. Similarly, the existing and planned DBS satellites do not have sufficient power to accommodate the widespread adoption of the higher order modulation schemes proposed by opponents and, even if possible, their use again would require the provision of new set-top boxes to all DBS customers receiving that programming for only limited gains in efficiency.

The proposed "super satellites" suggested by the merger opponents to address the capacity constraints of DBS providers also are unrealistic from a technical and economic perspective. Incorporating all of the various advanced satellite technologies suggested by opponents into a single platform designed for the delivery of video services, even if it were

possible, would result in a prohibitively expensive spacecraft with a reduced operational lifetime that very likely could not be launched using commercially available heavy-lift vehicles and rocket fairings. Aside from these fundamental satellite design issues, the novel combination of a large number of advanced satellite technologies would present unacceptable risks of catastrophic spacecraft failure and would require entirely new customer premises equipment and ground facilities for their use. Thus, the Applicants explained that building "super satellites" to replace the existing fleets of U.S. DBS satellites is simply not realistic.

The presentation also addressed the economic issues that restrict the Applicants' ability to provide local broadcast channels to no more than a limited number of the 210 DMAs in the United States. Specifically, EchoStar and DIRECTV individually must weigh the spectrum opportunity costs, signal collection and backhaul costs, the cost of satellite and ground facilities and local retransmission fees, against the benefits to be derived from introducing local broadcast channels into new markets, including local programming revenue, the addition of new subscribers and decreased subscriber churn. As the Applicants explained, the costs of providing local broadcast channels increase substantially as new DMAs are added because the addition of more local broadcast channels would displace more and more core national programming. At the same time, the revenue and other benefits resulting from the provision of local service to new markets declines because the DMAs are progressively smaller.

With the merger, however, the economics of providing local channels change dramatically. The spectrum capacity gained from eliminating program duplication will decrease the opportunity costs of devoting DBS spectrum to local channels. At the same time, the benefits of introducing local channels will increase because a larger subscriber base increases revenues even in smaller DMAs. In addition, the significant sales and marketing benefits of achieving full national coverage, including the reduction of marketing costs, expanded sales opportunities and the important ability to compete nationally with cable by providing local service to all customers, justifies the provision of local service to even the smallest DMAs. The Applicants plan to provide more definitive quantitative analyses that address the economic issues associated with the provision of local channels.

In order to implement the "Local Channels, All Americans" plan, the Applicants have committed to build a new satellite -- New EchoStar 1. New EchoStar 1's spot beams will be devoted to supplementing the local channel coverage to be provided by EchoStar VII and VIII, and DIRECTV 4S and 7S. This satellite is required to fill the Applicants' coverage gaps and provide local service to all 210 DMAs. It is also important to note that the expansion of local channels to all U.S. markets will not displace existing national DBS programming, but rather will go hand in hand with significant expansion of DBS customers' programming choices as well, because of the spectrum capacity gains resulting from the elimination of duplicative programming.

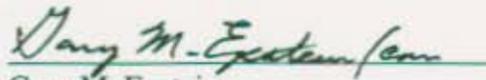
With respect to transition issues, the Applicants explained that transition plans are being developed with the objective of quickly recovering the spectrum now wasted in duplicative use. In this connection, new customers will be provided with "dual-speak" set-top boxes able to

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receive signals from both companies' platforms and triple-LNB dishes capable of receiving signals from all three CONUS slots. Spectrum would be recovered gradually within a period of 36 months from merger approval. This would be achieved through the early elimination of duplicative use of the spectrum for certain select programming (e.g., Spanish language and international programming, HDTV channels and certain local channels). The Applicants believe that such measures, along with the deployment of their planned satellites, will enable the merged entity to recover substantial amounts of DBS spectrum in stages, with full recovery of spectrum and implementation of local channel service to all 210 DMAs within 36 months of merger approval.

One copy of this *ex parte* notice is being filed electronically with the Commission. If you have questions concerning this meeting or this notice, please do not hesitate to contact the undersigned.

Respectfully submitted,



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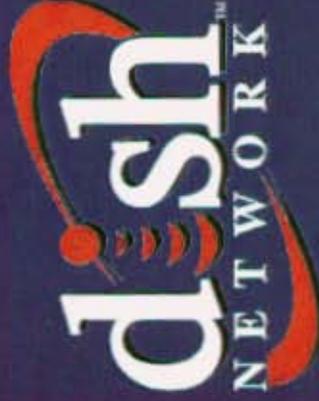
Attachments

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Qualex International

Federal Communications Commission Technical Presentation

DBS Spectrum/Capacity Issues

May 2002



David Baylor

Executive Vice President, Technology and Operations, DIRECTV

Mike T. Dugan

President and Chief Operations Officer, EchoStar Communications



Presenters



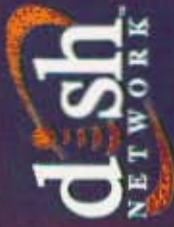
- GM/Hughes/DIRECTV
 - David Baylor
 - Larry Chapman
- EchoStar
 - Mike Dugan
 - Michael Schwimmer



EchoStar – Hughes Merger Issues



- DBS spectrum/capacity benefits. Why the merger is necessary to achieve them. (May 15 briefing)
- Roll-out of true satellite broadband for consumers. Why the merger is necessary to achieve this. (Subsequent briefing)
- Competitive effects. Why the merger will promote overall competition. (Subsequent briefing)



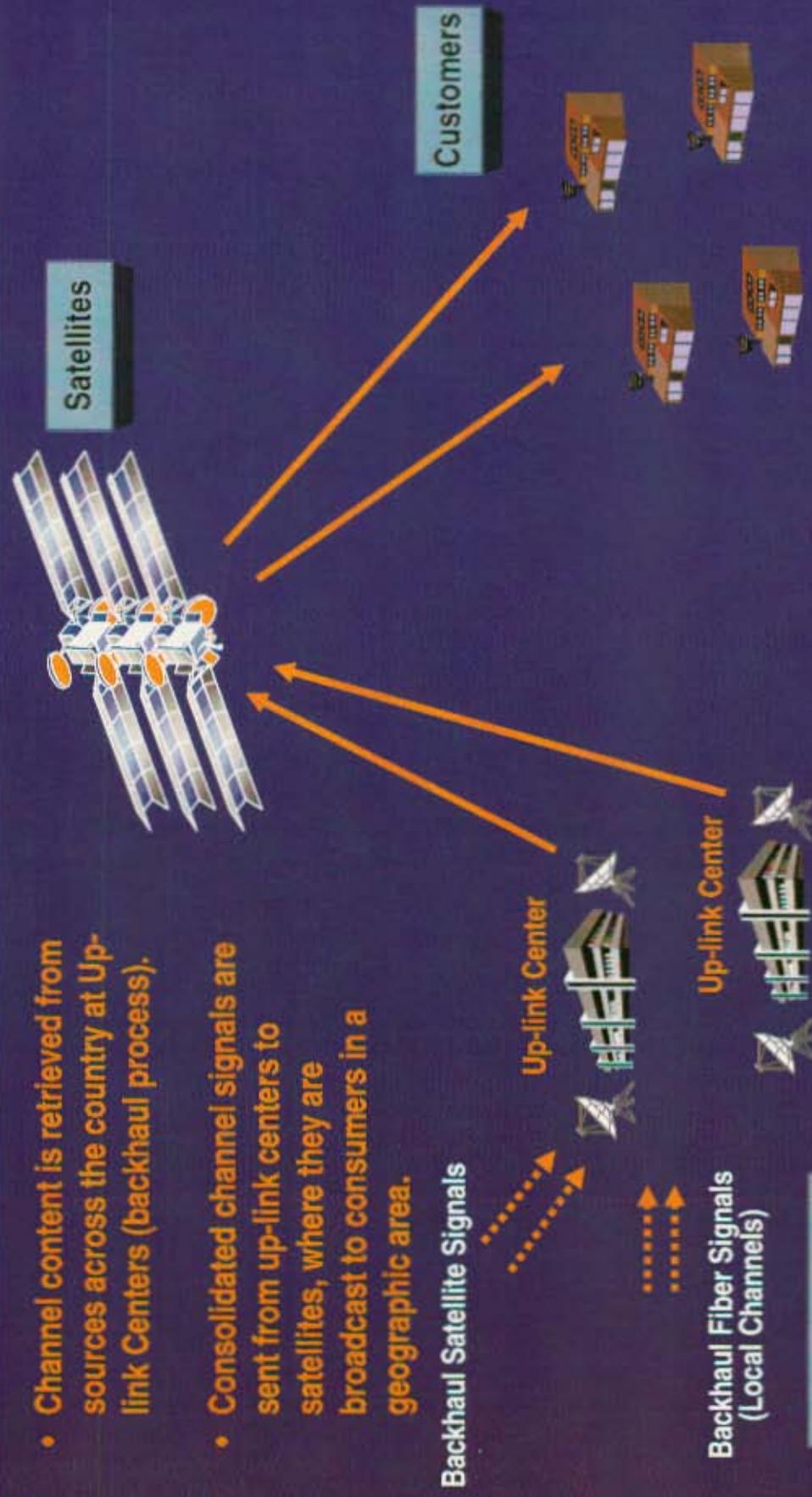
Outline of Presentation



- Brief technical overview of DBS service configuration
- Current DIRECTV/EchoStar spectrum utilization/programming duplication
- Each company's ability to provide local service in a limited number of cities
- "Local Channels, All Americans" becomes feasible with the merger
- The merger will free up spectrum for more High Definition Television, near video on demand, interactive services, ethnic programming and better service quality
- Transition process

Top Level Infrastructure

- Channel content is retrieved from sources across the country at Up-link Centers (backhaul process).
- Consolidated channel signals are sent from up-link centers to satellites, where they are broadcast to consumers in a geographic area.





DBS Frequency Assignments



- In the United States, the FCC issues DBS authorizations for specific DBS frequencies and orbital locations

Current DBS Authorizations

	175° W.L.	166° W.L.	157° W.L.	148° W.L.	119° W.L.	110° W.L.	101° W.L.	61.5° W.L.
			Wing	Core	Core	Core	Core	Wing
DIRECTV				11	3	32		
EchoStar	22 (permit) + 11 western unspecified (permit)		24 + 8 (STA)	21	29			11 + 13 (STA)
R/L DBS								11*
Dominion								8
Unallocated	10	32 each (Compass/Northpoint Application Pending)	8*					2*

* = In use by EchoStar under STA



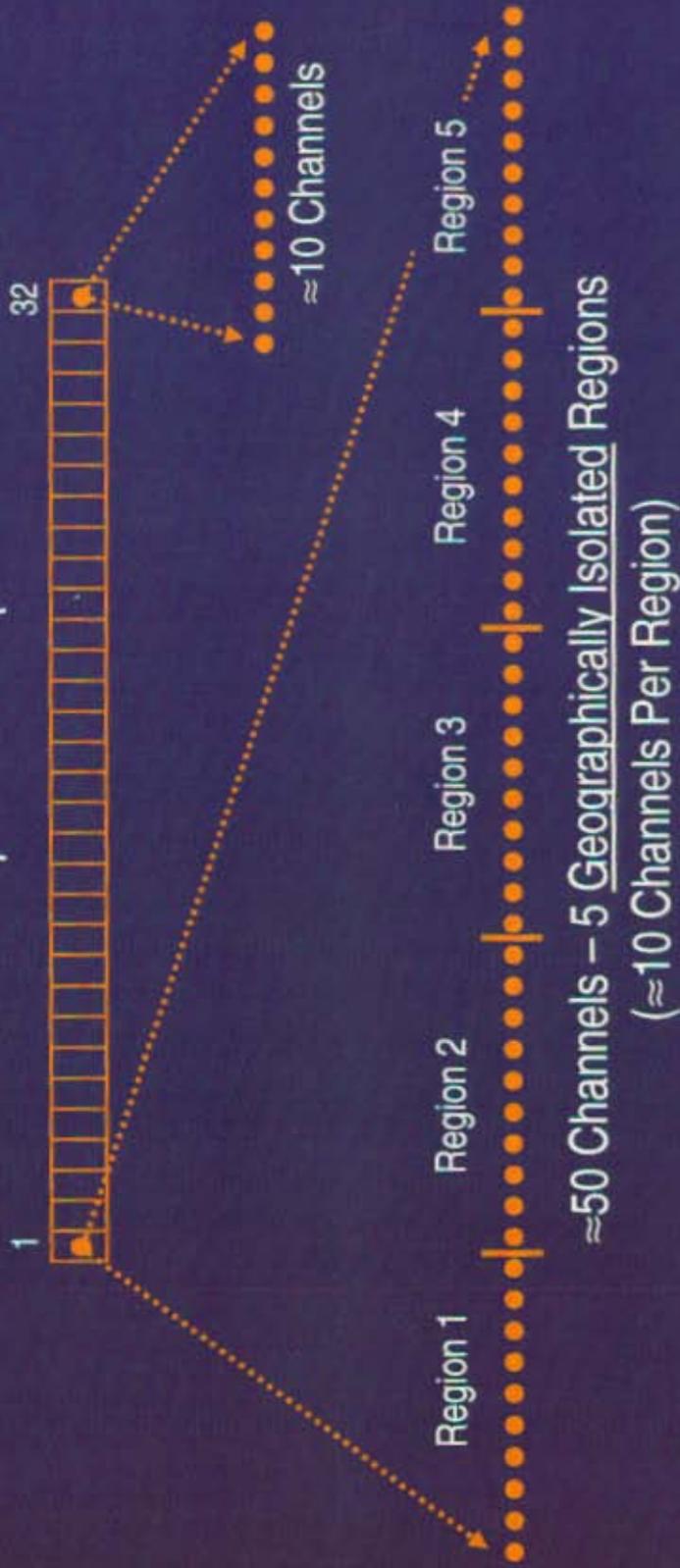
Frequency vs. Channel Capacity

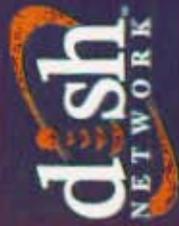


Typical Orbital Slot - 32 Frequency Spectrum
(Fixed Freq. Range; FCC Regulated; One Transponder Per Frequency)

Spot Beam Transponder:
5x Frequency Re-Use

CONUS Transponder:
No Frequency Re-Use





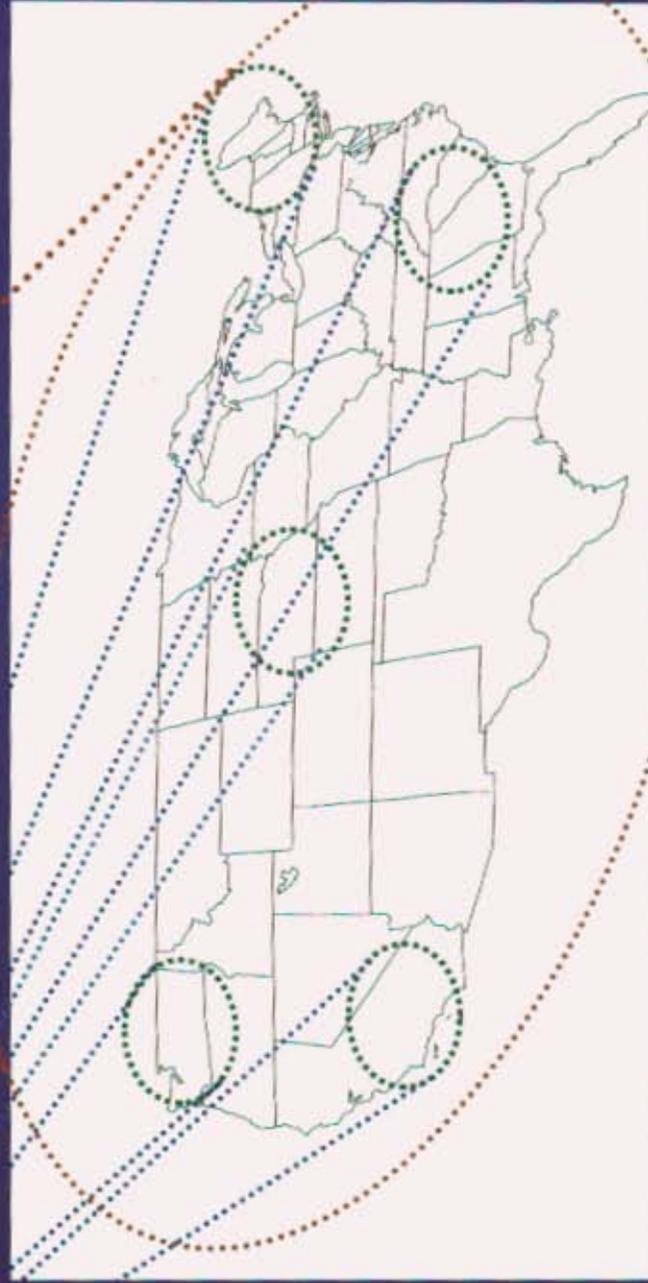
National vs. Spot Beams



Spot Beam Satellite



CONUS/National Beam Satellite





CONUS vs. Wing Slots



- From a CONUS slot, a satellite can transmit a signal that will cover the entire United States
- From a Wing slot, a satellite can broadcast to only a portion of the United States
- The same frequencies are used at each of the orbital slots, with distance between orbital positions providing isolation from interference
 - Use of two slots farther than about 20 degrees apart requires the customer to employ additional receive antennae
 - Any combination of CONUS and Wing slots requires two or more antennae



Outline of Presentation



- ☑ Brief technical overview of DBS service configuration
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Frequency Map For EchoStar and DIRECTV



Orbit Slot	Satellite	Transponders/Frequencies
61.5	Echo-III	32
101	DIRECTV 2	
	DIRECTV 3	
	DIRECTV 4S	6 8 5 9 6 10
	DIRECTV 1R	
110	Echo-V	
	Echo-VIII	5 5 5 5 5
	DIRECTV 1	
119	Echo-IV/VI	
	Echo-VII	5 5 5 5 5
	DIRECTV 5/6	
	Echo-I	
148	Echo-II	

= Spot Beam, n reuse
 = CONUS Beam
 = Not Licensed
 = Backup/Unavailable



EchoStar Satellites Currently In Use



Name	Orbital Location	Launch Date	Transponder Capability	DBS Frequencies Used
EchoStar III	61.5 W.L.	10/5/1997	32 low power/16 high power	23 + 9 (occasional use)
EchoStar V	110 W.L.	09/23/99	32 low power/16 high power	27 low power, 2 high power
EchoStar IV	119 W.L.	05/05/98	12 low power/6 high power (Due to anomaly/failure)	0 (On-orbit back-up)
EchoStar VI	119 W.L.	07/14/00	32 low power/16 high power	1 high power (On-orbit back-up)
EchoStar VII	119 W.L.	02/21/02	16 high power + 5 spot beam (25 equivalent) / 32 low power	15 high power + 5 spot beam
EchoStar I	148 W.L.	12/28/95	16 low power	16
EchoStar II	148 W.L.	09/10/96	16 low power	4 + 12 (occasional use)