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FEDERAL COMMUNICATIONS COMMISSION
REMITTANCE ADVISE

Approved by OMB
3060-0589
Page No 1 of 1

(1) LOCKBOX # 358210

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AUG 10 2001

SPECIAL USE

FCC USE ONLY

SECTION A - PAYER INFORMATION

(2) PAYER NAME (if paying by credit card, enter name exactly as it appears on your card)
Step toe & Johnson

(3) TOTAL AMOUNT PAID (U.S. Dollars and cents)
\$755.00

(4) STREET ADDRESS LINE NO. 1
Attn: Pantelis Michalopoulos

(5) STREET ADDRESS LINE NO. 2
1330 Connecticut Avenue, N.W.

DBS8801 SAT-A/O-20010810-00073
ECHOSTAR SATELLITE CORPORATION
Echostar 7

(6) CITY
Washington

(9) DAYTIME TELEPHONE NUMBER (include area code) (10)
202-429-6494

FCC REGISTRATION NUMBER (FRN) AND TAX IDENTIFICATION NUMBER (TIN) REQUIRED

(11) PAYER (FRN)
0003-7546-29

(12) PAYER (TIN)
521349790

IF PAYER NAME AND THE APPLICANT NAME ARE DIFFERENT, COMPLETE SECTION B
IF MORE THAN ONE APPLICANT, USE CONTINUATION SHEETS (FORM 159-C)

(13) APPLICANT NAME
EchoStar Satellite Corporation

(14) STREET ADDRESS LINE NO. 1
Attn: David K. Moskowitz

(15) STREET ADDRESS LINE NO. 2
5701 South Santa Fe

(16) CITY (17) STATE (18) ZIP CODE
Littleton CO 80120

(19) DAYTIME TELEPHONE NUMBER (include area code) (20) COUNTRY CODE (if not in U.S.A.)
303-723-1000

FCC REGISTRATION NUMBER (FRN) AND TAX IDENTIFICATION NUMBER (TIN) REQUIRED

(21) APPLICANT (FRN) (22) APPLICANT (TIN)

COMPLETE SECTION C FOR EACH SERVICE. IF MORE BOXES ARE NEEDED, USE CONTINUATION SHEET

(23A) CALL SIGN/OTHER ID (24A) PAYMENT TYPE CODE (25A) QUANTITY
EchoStar 7 MPD 1

(26A) FEE DUE FOR (PTC) (27A) TOTAL FEE FCC USE ONLY
\$755.00 \$755.00

(28A) FCC CODE 1 (29A) FCC CODE 2

(23B) CALL SIGN/OTHER ID (24B) PAYMENT TYPE CODE (25B) QUANTITY

(26B) FEE DUE FOR (PTC) (27B) TOTAL FEE FCC USE ONLY

(28B) FCC CODE 1 (29B) FCC CODE 2

SECTION D - CERTIFICATION

(30) CERTIFICATION STATEMENT
I, **David K. Moskowitz**, certify under penalty of perjury that the foregoing and supporting information is true and correct to the best of my knowledge, information and belief.
SIGNATURE *David K. Moskowitz* DATE **8/16/01**

SECTION E - CREDIT CARD PAYMENT INFORMATION

(31) MASTERCARD/VISA ACCOUNT NUMBER: EXPIRATION DATE:
 MASTERCARD

VISA I hereby authorize the FCC to charge my VISA or MASTERCARD for the service(s)/authorization herein described.
SIGNATURE _____ DATE _____

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	<u>EXPEDITED CONSIDERATION</u>
)	<u>REQUESTED</u>
EchoStar Satellite Corporation)	
)	File No. DBS 88-01
Application for Authority to Make Minor)	File No. DBS 88-02
Modification to Direct Broadcast Satellite)	File No. _____
Authorization, Launch and Operating Authority)	
for EchoStar 7)	

**APPLICATION OF ECHOSTAR SATELLITE CORPORATION
FOR MINOR MODIFICATION OF DBS AUTHORIZATION,
LAUNCH AND OPERATING AUTHORITY FOR ECHOSTAR 7**

EchoStar Satellite Corporation ("EchoStar") hereby applies for authority to launch a direct broadcast satellite, EchoStar 7, and operate it at the 119° W.L. orbital location. EchoStar is already licensed to operate 21 Direct Broadcast Satellite ("DBS") channels at that location,¹ and is requesting minor modification of its authority to allow operation of EchoStar 7. EchoStar currently operates a DBS system consisting of six DBS satellites located at the 61.5° W.L., 110° W.L., 119° W.L., and 148° W.L. orbital positions. With these satellites, EchoStar has the capacity to offer numerous digital video, data and audio channels of programming, including educational and informational programming, local networks and high definition television ("HDTV"), to over six million households throughout the United States.

The addition of EchoStar 7 to EchoStar's existing constellation of DBS satellites will enhance that capacity. That satellite is equipped with spot beams that will allow limited

¹ Letter from Donald H. Gips to EchoStar Satellite Corporation, DA 96-1983 (rel. Nov. 26, 1996); Letter from Donald H. Gips to Directsat Corporation, DA 96-1982 (rel. Nov. 26, 1996).

reuse of the spectrum at the 119° W.L. orbital location. Put simply, the satellite will give EchoStar for the first time the ability to use the same spectrum for the purpose of providing different programming to different regions of the country. Thus, EchoStar 7 will increase the efficiency of EchoStar's use of the satellite spectrum, and allow EchoStar to tailor its programming choices to the localized preferences of consumers to a greater extent than before. It will alleviate one of the principal competitive disadvantages the DBS industry historically has faced against cable incumbents: the ability to provide local programming. Among other things, the satellite will increase EchoStar's ability to provide local-into-local broadcast service to an expanded number of cities and compete on a somewhat more equal footing with cable systems in those cities. For these reasons, grant of this application is in the public interest.

I. INTRODUCTION AND BACKGROUND

In 1989, the Commission granted EchoStar and Directsat (a predecessor in interest of EchoStar) conditional permits to provide DBS service from "two or more satellites delivering 11 channels to each half of the United States, or one or more satellites delivering 11 channels to the continental United States."² In 1992, the Commission assigned 11 channels to EchoStar to provide service from 119° W.L.³ In 1993, the Commission assigned 10 channels to Directsat, also at 119° W.L., for the same purpose.⁴

² *Continental Satellite Corporation*, 4 FCC Rcd. 6292, 6300 (1989).

³ *EchoStar Satellite Corporation*, 7 FCC Rcd. 1765, 1770 (1992). EchoStar was assigned the odd-numbered channels 1-21.

⁴ *Direcstsat Corporation*, 8 FCC Rcd. 7962, 7964 (1993). Direcstsat was assigned its even-numbered channels 2-20.

EchoStar launched its first satellite to the 119° W.L. orbital location in December 1995, and since March 1996 has provided continuous DBS service to customers throughout the continental United States.⁵ Directsat launched its first satellite to the 119° W.L. orbital location in September 1996, which allowed EchoStar, upon acquiring Directsat, to integrate the two satellites into an offering of about 125-130 video channels.⁶ EchoStar subsequently moved two additional satellites, EchoStar 4 and 6, to the 119° W.L. orbital location, relocated EchoStar 1 to 148° W.L., moved all programming services provided from 119° W.L. to EchoStar 4 and 6, and relegated EchoStar 2 to in-orbit spare status at that orbital location.⁷ As a result, EchoStar currently operates three satellites at the nominal 119° W.L. orbital location: EchoStar 4 at 118.9° W.L. and EchoStar 6 at 119.05° W.L., while EchoStar 2 is located at 119.35° W.L. as an in-orbit spare.

Now, in an effort to provide expanded and improved service to consumers, including additional local broadcast channel service offerings, as envisioned by Congress, EchoStar seeks Commission approval to launch and operate EchoStar 7 and to collocate the satellite at the 119° W.L. orbital location.

⁵ *EchoStar Satellite Corporation*, 11 FCC Rcd. 3015, 3015 (1996).

⁶ *See Directsat Corporation and EchoStar Communications Corporation Application, for Commission Consent to Transfer of Control*, 10 FCC Rcd. 88 (1995); *see also Directsat Corporation*, 11 FCC Rcd. 10575, 10577 (1996).

⁷ *See generally EchoStar Satellite Corporation*, DA 00-2382, Memorandum Opinion and Order (rel. Nov. 27, 2000); *see also In Re EchoStar Satellite Corporation, Directsat Corporation, EchoStar DBS Corporation*, 13 FCC Rcd. 8595 (1998).

II. GENERAL TECHNICAL INFORMATION AND AUTHORITY REQUESTED

EchoStar 7 is a “spot beam” satellite specifically intended to provide limited spectrum reuse and additional localized programming capacity for EchoStar’s existing DBS system. EchoStar 7 will specifically deliver 41 DBS-equivalent channels using the 21 channels that EchoStar is licensed to use at the 119° W.L. location. This will be achieved by reusing five times each of five of the channels licensed to EchoStar at 119° W.L. EchoStar 7 will accomplish this through the use of 15 separate spot beams. This means that there will be a total of 25 DBS channels transmitted in the 15 downlink spot beams, with one channel per beam in five of the spot beams and two channels per beam in the other ten spot beams. Again, because of the five-fold frequency re-use between the spot beams, the 25 spot beam channels require only five channel frequencies. The remaining channels (up to 16 in the high power mode) will be used for “CONUS-plus” coverage,⁸ including Alaska and Hawaii, although the satellite could be reconfigured to alternatively transmit 32 DBS CONUS-plus channels in reduced power mode.⁹

To be able to downlink 41 DBS-equivalent channels, the satellite is equipped with spectrum reuse capabilities for its uplinks as well. It incorporates two separate uplink spot beams that enable it to reuse 20 of the available 21 uplink channels twice. Each of these 20 channels can be used to uplink different programming from each of two geographically separate uplink sites (Cheyenne, Wyoming and Gilbert, Arizona). Alternatively, a reduced number of

⁸ EchoStar currently plans to transition gradually to EchoStar 7 all or most CONUS programming currently distributed from any other satellite at the 119° W.L. orbital location.

⁹ See Technical Annex, Table 4-1.

channels can be uplinked using the conventional CONUS receive beam. The attached Technical Annex contains a detailed technical description of the EchoStar 7 satellite.

III. INTERFERENCE ANALYSES

Appendices 3 and 4 to the attached Technical Annex show that the operation of EchoStar 7 will not cause harmful interference into any authorized user of the spectrum and will not cause any interference in excess of the parameters set forth in Appendices S30 and S30A to the international Radio Regulations.

IV. APPLICANT QUALIFICATIONS

EchoStar is a fully qualified Commission licensee. EchoStar's legal qualifications are a matter of public record. For DBS systems, the Commission does not require a prior demonstration of financial qualifications, but instead relies on the applicant meeting due diligence milestones once a system is authorized.¹⁰ Nevertheless, EchoStar has sufficient financial resources available to cover the costs of launching and operating the EchoStar 7 satellite.

V. TYPE OF OPERATIONS

EchoStar intends to operate EchoStar 7 on a non-broadcast, non-common carrier basis, as it operates its current satellite fleet at 61.5° W.L., 110° W.L., 119° W.L. and 148° W.L.

¹⁰ See 47 C.F.R. § 100.19.

EchoStar may sell and/or lease a portion of its capacity on a non-common carrier basis for complementary business purposes.

VI. SCHEDULE

The expected launch date of EchoStar 7 is December 2001.

VII. PUBLIC INTEREST CONSIDERATIONS

By allowing limited frequency reuse, the operation of EchoStar 7 will bring about benefits that are concrete and have been recognized by the Commission and Congress. First, EchoStar will improve spectrum efficiency, a fundamental goal of the Commission's spectrum management policies. Second, the new satellite will bolster EchoStar's ability to provide consumers in each of several regions with localized programming, including local broadcast signals. This will increase consumers' programming choices. Third, the satellite will permit EchoStar to provide service that is a closer substitute to cable offerings, as envisioned by Congress when it enacted the Satellite Home Viewer Improvement Act of 1999.¹¹ This will, in turn, help alleviate one of the principal handicaps of nationwide satellite delivery compared to distribution from the local cable headend - the ability of cable operators to better cater to local programming preferences. As the Commission has observed, for example, the inability of many consumers to receive local broadcast signals from DBS operators has negatively affected their

¹¹ Satellite Home Viewer Improvement Act of 1999, Pub. L. No. 106-113, 113 Stat. 1501, 1501A-526 to 1501A-545 (Nov. 29, 1999) ("SHVIA"); *see also* H.R. 3194, 106th Cong., 1st Sess. (1999); S. Rep. No. 1948, 106th Cong., 1st Sess. (1999); H.R. Conf. Rep. No. 479, 106th Cong., 1st Sess. (1999).

decision whether to switch to DBS from cable.¹² As Congress and the Commission have both recognized, the continued success of DBS is integral to the establishment of a more competitive market for the delivery of MVPD services.

VIII. THE NEED FOR EXPEDITED PROCESSING

EchoStar respectfully requests expeditious action on this application. The EchoStar 7 satellite is set to be launched in December 2001. Expedition is particularly important because satellite carriers must comply with extremely cumbersome must-carry obligations under SHVIA starting in January 2002.¹³ Must-carry necessitates a dramatic expansion of EchoStar's capacity if EchoStar is to serve a substantial number of U.S. cities with local broadcast signals, and EchoStar 7 represents a step towards marshalling some of that additional capacity.

¹² *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Seventh Annual Report, CS Docket No. 00-132, FCC 01-1 (rel. Jan. 8, 2001) ("*Seventh Report*") at ¶ 13.

¹³ *See In the Matter of Implementation of the Satellite Home Viewer Improvement Act of 1999*, CS Docket No. 00-96 (rel. Nov. 30, 2000) at ¶ 1.

IX. WAIVER PURSUANT TO SECTION 304 OF THE ACT

In accordance with Section 304 of the Communications Act of 1934, as amended,¹⁴ EchoStar Satellite Corporation hereby waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise.

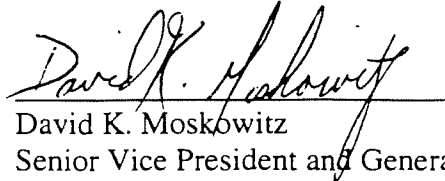
X. CONCLUSION

For the reasons discussed herein, the public interest will be served by grant of this requested modification.

¹⁴ See 47 U.S.C. § 304.

Respectfully submitted,

EchoStar Satellite Corporation

A handwritten signature in black ink, reading "David K. Moskowitz", written over a horizontal line.

David K. Moskowitz
Senior Vice President and General Counsel

EchoStar Satellite Corporation

5701 South Santa Fe

Littleton, CO 80120

(303) 723-1000

Dated: 8/10/01

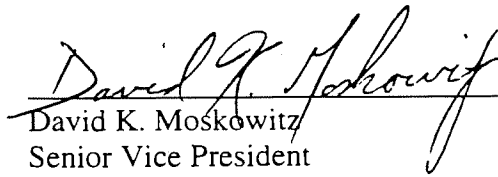
ANTI-DRUG ABUSE ACT CERTIFICATION

Pursuant to Section 1.2002 of the Commission's rules, 47 C.F.R. Section 1.2002 (1997), Applicants certify that neither the Applicants nor any of their shareholders, not any of their officers or directors, are subject to a denial of Federal benefits pursuant to authority granted in Section 5301 of the Anti-Drug Abuse Act of 1988.

Respectfully submitted,

EchoStar Satellite Corporation

By:



David K. Moskowitz
Senior Vice President
and General Counsel

EchoStar Satellite Corporation

5701 South Santa Fe
Littleton, CO 80120
(303) 723-1000

Dated: 8/10/01

**CERTIFICATION OF PERSON RESPONSIBLE FOR
PREPARING ENGINEERING INFORMATION**

I hereby certify that I am the technically qualified person responsible for preparation of the engineering information contained in this pleading, that I am familiar with Part 100 of the Commission's Rules, that I have either prepared or reviewed the engineering information submitted in this pleading, and that it is complete and accurate to the best of my knowledge and belief.

Richard Barnett

Richard Barnett
Telecomm Strategies, L.L.C.
6404 Highland Drive
Chevy Chase, MD 20815-6608
(301) 656-8969

Dated: *8/10/01*

TECHNICAL ANNEX

Technical Description of EchoStar-7

1. General Description

EchoStar-7 will deliver 41 equivalent DBS channels using the 21 channels that EchoStar is licensed to use at the 119°W.L. geostationary orbital position. The frequency reuse necessary to achieve 41 channels is accomplished by the use of spot beams to deliver local programming in addition to the CONUS+ beam coverage. The CONUS+ coverage, which includes Alaska and Hawaii, is similar to that already provided by several of EchoStar's existing satellites, while the new spot beam coverage allows for efficient broadcasting of local channels to more than 40 different metropolitan areas by the use of 15 separate spot beams.

In the downlink CONUS+ beam coverage the EchoStar-7 satellite will transmit 16 high power DBS channels in its baseline configuration mode, although it can be reconfigured to alternatively transmit up to 32 DBS channels in reduced power mode.¹ In addition, in the baseline configuration mode there will be a total of 25 equivalent DBS channels transmitted in the 15 downlink spot beams, with one channel per beam in five of the spot beams and two channels per beam in the other ten spot beams. Because of the five-fold frequency re-use between the spot beams, the 25 spot beam channels require only five channel frequencies.

The satellite is designed to operate at full capacity using the 21 available uplink channels transmitted from two geographically separate uplink sites (Cheyenne, WY and Gilbert, AZ), which permit frequency re-use of the uplink spectrum when using the two separate satellite receive spot beams. Alternatively a reduced number of channels can be uplinked using the conventional CONUS receive beam.

2. Satellite Transmit Performance (Downlink)

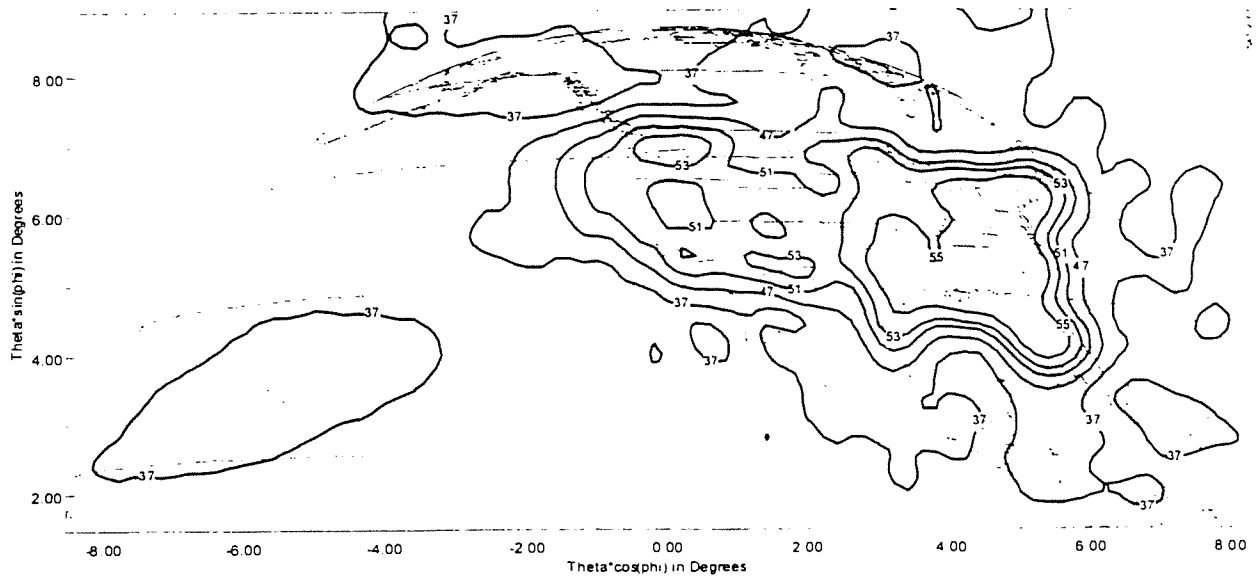
The EchoStar-7 satellite has a single CONUS+ transmit beam that operates in both RHC and LHC polarizations and 15 separate transmit spot beams that operate in RHC polarization only.

The CONUS+ transmit beam EIRP performance is shown in Figure 2-1.² Both LHC and RHC polarizations are shown.

¹ Operation of 32 channels in the CONUS+ beam would require the full 32 channels of the ITU Region 2 BSS Plan at the 119° W.L. orbital position, which would exceed the number of channels currently licensed to EchoStar.

² The performance levels shown here are for normal mode operation. EIRP levels for high power mode, where only 16 channels are used in the CONUS+ beam, are approximately 2.7 dB higher than shown here.

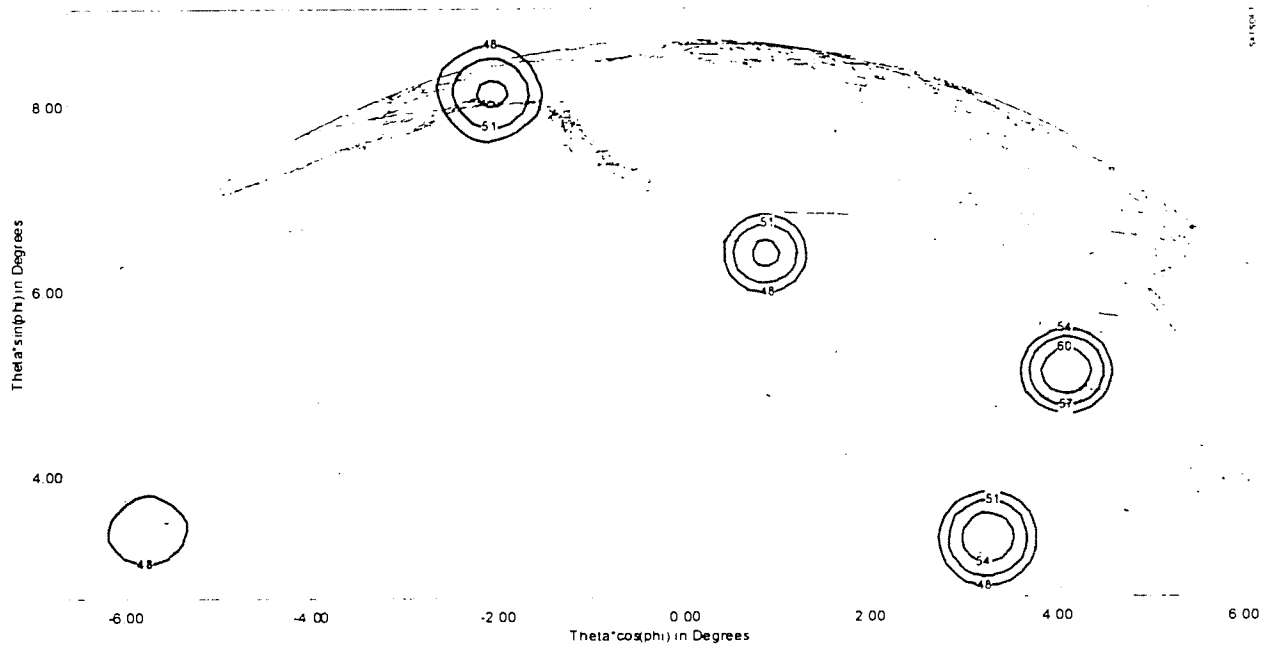
**Figure 2-1: CONUS+ Beam Transmit EIRP Contours
(55, 53, 51, 47 and 37 dBW)**



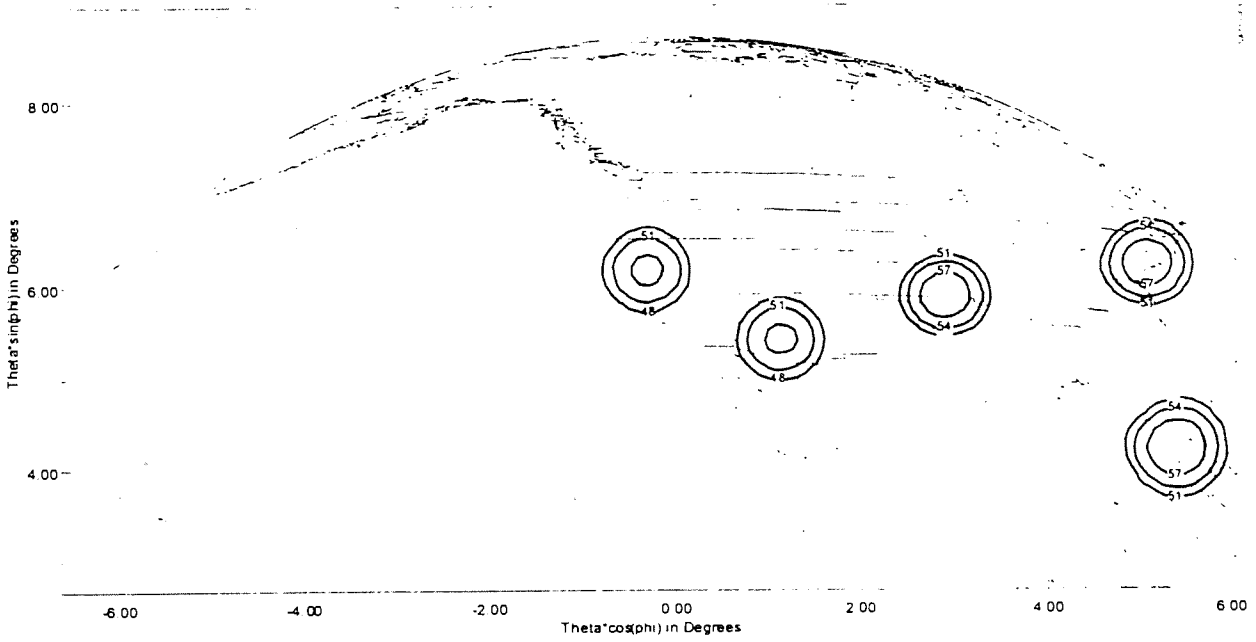
The transmit spot beam EIRP performance is shown in Figure 2-2 (five spot beams on each diagram).

**Figure 2-2: Spot Beam Transmit EIRP Contours
(60, 57, 54, 51 and 48 dBW)**

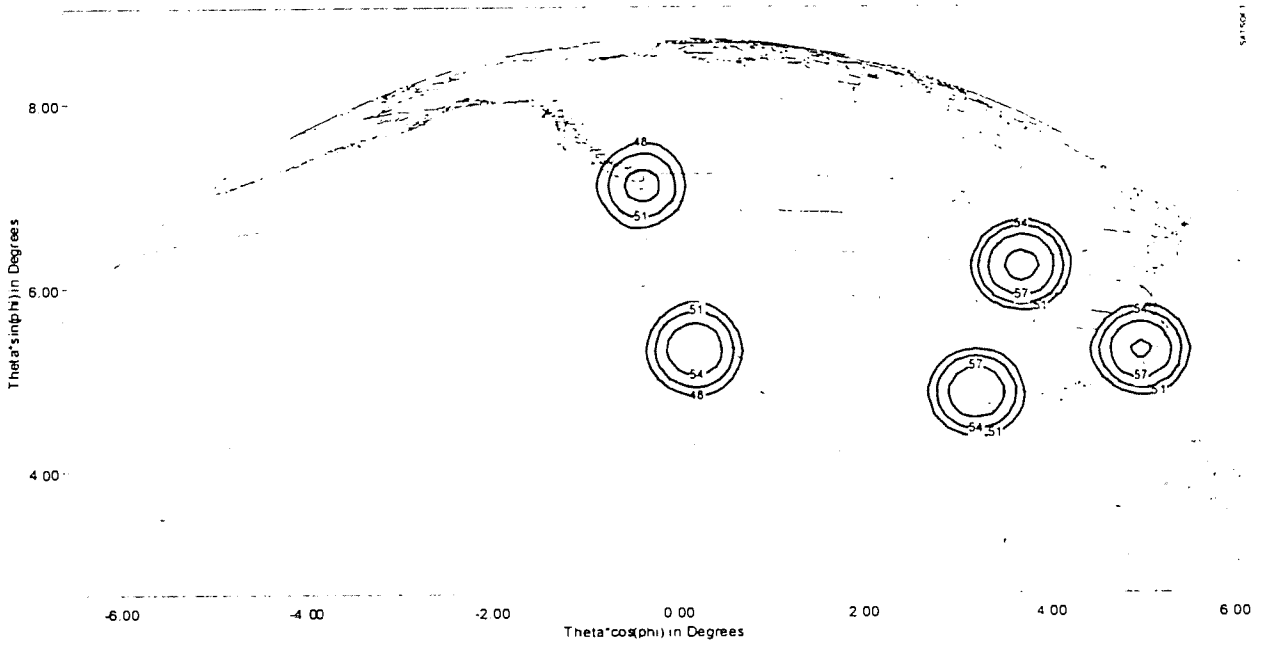
(a) Beams 1, 2, 7, 8 and 12



(b) Beams 4, 6, 9, 13 and 15



(c) Beams 3, 5, 10, 11 and 14



The precise pointing directions of the spot beams shown in Figure 2-1 are given in Table 2-1 as a set of boresight locations defined by their latitude and longitude. The -3 dB beamwidth of these spot beams is approximately 0.9°.

Table 2-1: Spot Beam Boresight Pointing Directions

Beam Number	Location of Beam Center	
	Longitude (°W)	Latitude (°N)
1	157.82	21.37
2	148.37	62.32
3	122.40	47.34
4	121.38	38.76
5	117.60	32.81
6	111.15	33.31
7	112.10	41.06
8	99.17	19.33
9	96.60	37.44
10	97.00	29.23
11	88.33	40.80
12	88.90	31.81
13	72.74	41.37
14	80.50	33.61
15	80.79	25.75

3. Satellite Receive Performance (Uplink)

The EchoStar-7 satellite has a single CONUS receive beam and two separate receive spot beams. All receive beams operate in both RHC and LHC polarizations.

The CONUS receive beam G/T performance is shown in Figure 3-1.

The receive spot beam G/T performance is shown in Figure 3-2. The two receive spot beams are pointed towards the EchoStar feeder uplink sites at Cheyenne, WY and Gilbert, AZ. There is greater than 28 dB isolation between the transmissions from these two uplink sites by virtue of the use of these two separate spot beams.

Figure 3-1: CONUS Receive Beam G/T Contours
(4 dB/K, 2 dB/K, 0 dB/K, -4 dB/K and -14 dB/K)

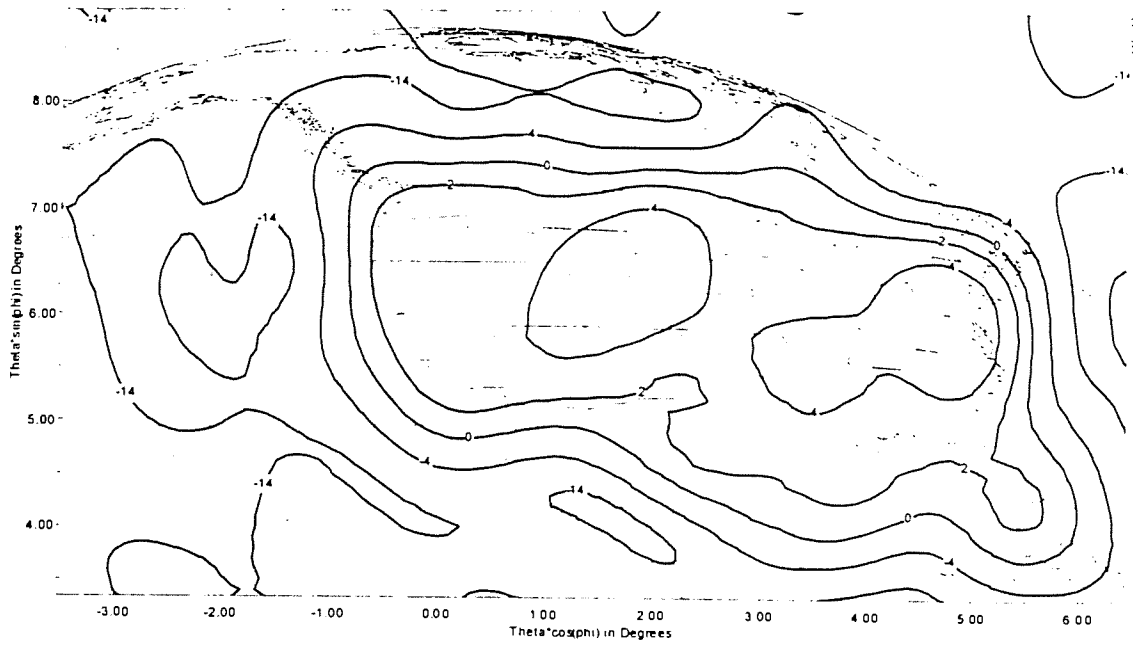
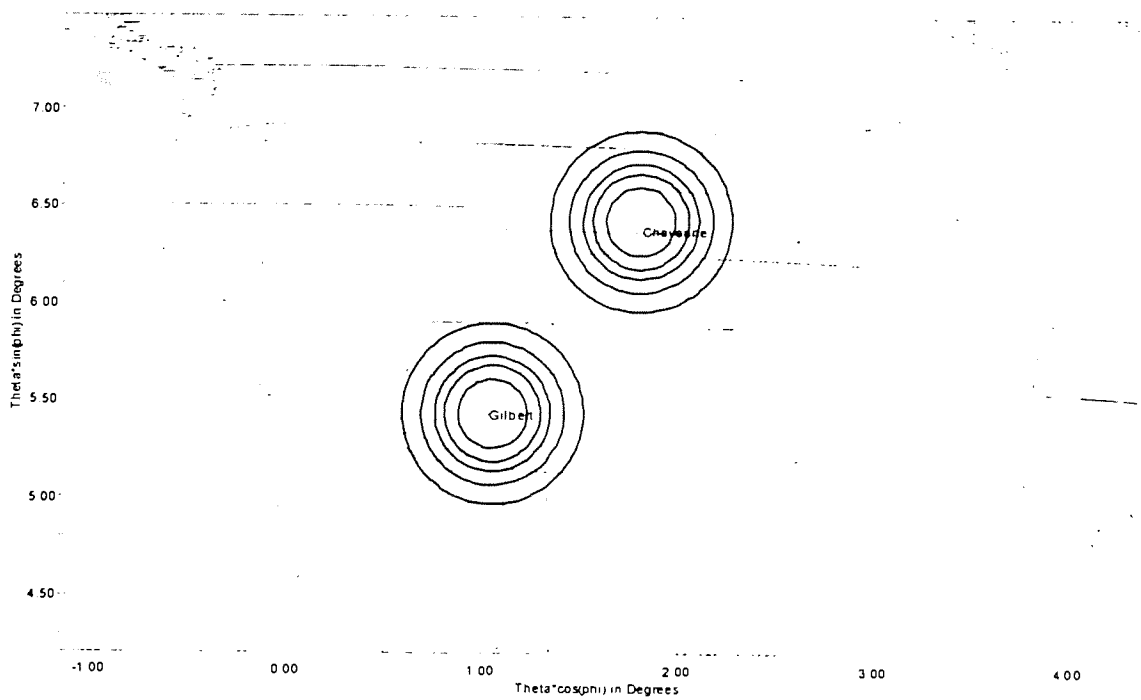


Figure 3-2: Spot Beam Receive Beam G/T Contours
(8 dB/K, 6 dB/K, 4 dB/K, 0 dB/K and -10 dB/K)



The G/T performance in the direction of the EchoStar feeder uplink sites, for both the CONUS and spot beams, is summarized in Table 3-1.

Table 3-1: G/T Performance towards EchoStar Uplink Sites

Uplink Site	Minimum G/T (dB/K)	
	CONUS+ Beam	Spot Beams
Gilbert, AZ	1.4	8.8
Cheyenne, WY	5.4	9.8

4. Frequency Plans

The EchoStar-7 satellite uses the channel center frequencies and channel bandwidths prescribed in the ITU's Region 2 BSS Plan.³ EchoStar is licensed by the Commission to use channels 1 to 21 at 119°W. Table 4-1 shows the assignment of uplink channels to uplink and downlink beams on the EchoStar-7 satellite for the baseline configuration mode. Note that 20 out of the 21 channels are used twice (spatially) on the uplink. On the downlink, 16 of the channels are not re-used (as they are in the CONUS+ beam) and five channels are used five times (spatially).

³ Channel bandwidth is 24 MHz. Spacing between center frequencies of adjacent co-polar channels is 29.16 MHz. Cross-polar channels offset by 14.58 MHz.

Table 4-1: Channel-to-Beam Assignment

Uplink Channel	Uplink Beam	Downlink Channel	Downlink Beam
1	Cheyenne	1	Spot Beam 5
1	Gilbert	1	Spot Beam 9
2	Cheyenne	2	CONUS+
2	Gilbert	1	Spot Beam 15
3	Cheyenne	3	Spot Beam 5
3	Gilbert	3	Spot Beam 9
4	Cheyenne	4	CONUS+
4	Gilbert	3	Spot Beam 15
5	Cheyenne	5	Spot Beam 4
5	Gilbert	5	Spot Beam 6
6	Cheyenne	6	CONUS+
6	Gilbert	5	Spot Beam 11
7	Cheyenne	7	Spot Beam 4
7	Gilbert	7	Spot Beam 6
8	Cheyenne	8	CONUS+
8	Gilbert	7	Spot Beam 11
9	Cheyenne	9	Spot Beam 1
9	Gilbert	9	Spot Beam 8
10	Cheyenne	10	CONUS+
10	Gilbert	9	Spot Beam 2
11	Cheyenne	11	CONUS+
11	Gilbert	1	Spot Beam 13
12	Cheyenne	12	CONUS+
12	Gilbert	1	Spot Beam 3
13	Cheyenne	13	CONUS+
13	Gilbert	3	Spot Beam 13
14	Cheyenne	14	CONUS+
14	Gilbert	3	Spot Beam 3
15	Cheyenne	15	CONUS+
15	Gilbert	5	Spot Beam 10
16	Cheyenne	16	CONUS+
16	Gilbert	5	Spot Beam 14
17	Cheyenne	17	CONUS+
17	Gilbert	7	Spot Beam 10
18	Cheyenne	18	CONUS+
18	Gilbert	7	Spot Beam 14
19	Cheyenne	19	CONUS+
19	Gilbert	9	Spot Beam 7
20	Cheyenne	20	CONUS+
20	Gilbert	9	Spot Beam 12
21	Cheyenne	21	CONUS+

Table 4-2 shows, in simpler form, which downlink channels are assigned to the various downlink spot beams

Table 4-2: Downlink Spot Beam Channel Assignment

Spot Beam	Channels
1	9
2	9
3	1, 3
4	5, 7
5	1, 3
6	5, 7
7	9
8	9
9	1, 3
10	5, 7
11	5, 7
12	9
13	1, 3
14	5, 7
15	1, 3