

TECHNICAL EXHIBIT
APPLICATION FOR MODIFICATION OF
LICENSED FACILITY
(FCC FILE NO. BLTTL-20000207ABF)
LPTV STATION KNXT-LP
FACILITY ID 16944
MARICOPA, CALIFORNIA
CH 38 150 KW (MAX-DA)

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an application for modification of the licensed facility for LPTV station KNXT-LP at Maricopa, California (Facility ID: 16944; File No. BLTTL-20000207ABF). Station KNXT-LP is currently licensed to operate on channel 57 which is located in that portion of the TV band (channels 52-69) which has been reallocated for other services. Pursuant to Section 73.3572(a)(4)(ii), KNXT-LP is considered to be displaced and permitted to file a displacement relief application at any time. Therefore, this application proposes to change to core-band channel 38, increase the maximum effective radiated power (ERP) from 8.2 kilowatts (kW) to 150 kW, and operate with an Antenna Concepts model ACB16CR directional antenna system oriented at 80 degrees true. No other changes are proposed including site, radiation center above mean sea level (RCAMSL), or community of license (Maricopa). As detailed below, this application is considered a "minor change" in facilities pursuant to Section 73.3572.

Minor Change Application

Figure 1 depicts the licensed and herein proposed 74 dBu contours for KNXT-LP. As indicated, the proposed 74 dBu contour encompasses essentially all of the licensed 74 dBu contour. Therefore, the proposed modification is also considered a "minor change" in facilities pursuant to Section 73.3572.

Response to Paragraph 13(a) - TV Broadcast Analog Protection

A study has been conducted using the provisions of Section 74.705 which indicate that the proposed KNXT-LP operation will not create prohibited interference to other existing, authorized or proposed TV broadcast analog (NTSC) full-power stations, with the exception of the licensed operation of KERO-TV on channel 23, at Bakersfield, CA (BMLCT-305), the licensed (BLCT-20010209ABS) and authorized (BMPCT-20000406AAS) co-channel operations of KPMR at Santa Barbara, CA, and the licensed operation of KUVI-TV on channel 45 at Bakersfield, CA (BLCT-19881229KF). Therefore, waiver of Section 74.705 is requested with respect to these operations. Justifications for the waiver requests are provided below.

Station KERO-TV operates on a -15 picture image taboo channel. Station KPMR's licensed and authorized facilities operate co-channel to the proposed KNXT-LP operation. Station KUVI-TV operates on a +7 local oscillator taboo channel. Based on the provisions of the OET-69 Bulletin as permitted by FCC rules [Section 74.705(e)], it is believed that KNXT-LP's proposed operation complies with the FCC's interference criteria towards all these operations. Specifically, calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin and a 2 square kilometer grid. The results of the OET Bulletin No. 69 are tabulated on Figure 2 and, as indicated, the proposal complies with the FCC's 0.5% interference threshold criteria towards all these operations.¹

Response to Paragraph 13(b) - DTV Station Protection

Calculations based on OET Bulletin No. 69 indicate that the proposed KNXT-LP operation on channel 38 complies with the FCC's 0.5% interference threshold criteria to all allotted,

¹ The du Treil, Lundin & Rackley, Inc. DTV interference analysis program is based on the program and procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 2 km was employed. An Alpha based processor computer system was employed. The results have been found to be in very close agreement with the results of the FCC implementation of OET Bulletin 69.

proposed or actual DTV operating facilities on channels 38 & 39 (channel 37 is reserved for radio astronomy). The results are tabulated in Figure 2.

Response to Paragraph 13(c) - LPTV/TV Translator, Class A
Station Protection

A study has been conducted which indicates that the KNXT-LP proposal will not create prohibited interference to other existing, authorized or proposed LPTV, TV Translator and Class A stations, with the exception of the licensed co-channel LPTV operation KPAL-LP at Palmdale, CA (BLTTL-19900723II) and the pending application for K53IB on channel 53 (+15 picture image taboo) at Bakersfield, CA (BMPTTL-20030609ADZ). However, based on the provisions of the OET-69 Bulletin as permitted by FCC rules [Section 74.707(e)] it is believed that KNXT-LP's proposed operation complies with the FCC's interference criteria towards these operations. Specifically, calculations have been made using the procedures outlined in the FCC's OET-69 Bulletin and a 2 square kilometer grid. The results of the OET Bulletin No. 69 are tabulated on Figure 2 and, as indicated, the KNXT-LP proposal is not predicted to cause any interference towards these operations.

Environmental Considerations

The proposed KNXT-LP television facilities were evaluated in terms of potential radiofrequency radiation exposure at ground level in accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation". The calculated power density at the base of the tower was calculated using the appropriate equation of the Bulletin.

Using a worst-case vertical relative field value of 0.18 towards the tower base (see vertical plane relative field pattern attached as Figure 3), a maximum visual ERP of 150 kilowatts and 10 percent aural power, the calculated power density at 2 meters above ground level at the base of the tower is 0.1258 milliwatts per square centimeter (mW/cm²), or 30.6% percent of the Commission's recommended limit of 0.41 mW/cm² for

TV channel 38 applicable to general population/uncontrolled exposure areas and 6.1% of the 2.06 limit for a controlled environment. However, as this is a multi-user site, measurements will be made to substantiate compliance with RF emission rules.

Access to the transmitting site will be restricted and appropriately marked with warning signs. Furthermore, as this is a multi-user site, an agreement will be in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down.

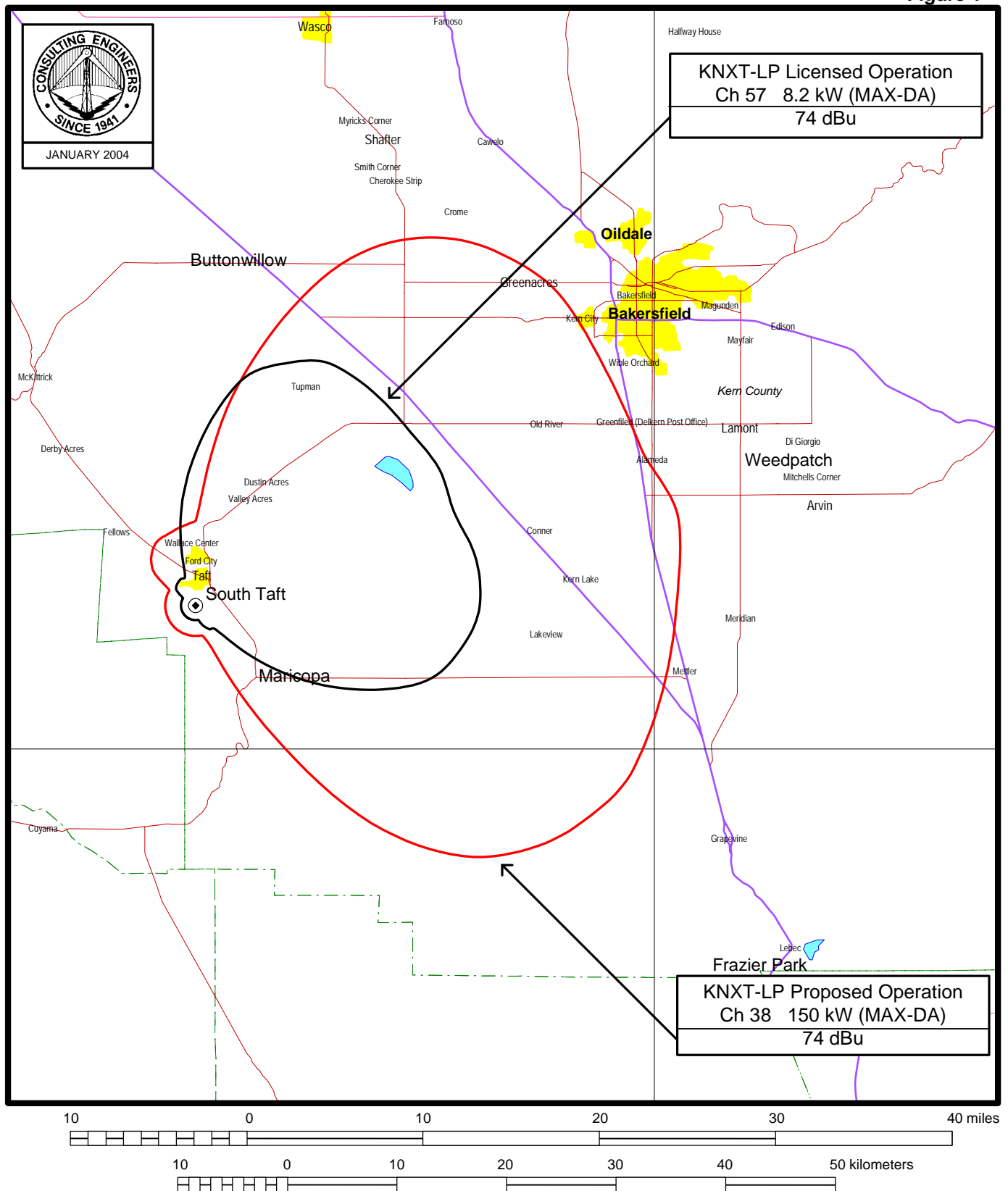
It is noted that this technical exhibit only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be provided to the FCC by the tower owner as part of the tower registration process.

W. Jeffrey Reynolds

du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 34237
(941)329-60000
JEFF@DLR.COM

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Figure 1



PREDICTED FCC 74 DBU COVERAGE CONTOURS

LPTV STATION KNXT-LP
MARICOPA, CALIFORNIA
CH 38 150 KW (MAX-DA)

du Treil, Lundin & Rackley, Inc., Sarasota, Florida

OET-69 INTERFERENCE CAUSED SUMMARY

CELL SIZE : 2.00

Using offset in determining thresholds

KERO-T 35-27-14 118-35-37 23(-) 1760.000 kw 2323 m DA 50.0 % 62.6 dBu
BAKERSFIELD CA 20817 611 FCC NTSC BL: 793347 FCC IX POP%: 0.0
LIC BMLCT305

1.00	0.93	0.80	0.78	0.81	0.81	0.73	0.56	0.40	0.33	0.37	0.41
0.42	0.44	0.44	0.44	0.47	0.53	0.56	0.53	0.47	0.44	0.44	0.44
0.42	0.41	0.37	0.33	0.40	0.56	0.73	0.81	0.81	0.78	0.80	0.93

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	32571.10	788152
not affected by terrain losses	21200.27	606437

KNXT-LP 35-07-04 119-27-36 38(+) 150.000 kw 515 m DA 10.0 % 74.0
MARICOPA ETC. CA

PROPOSED

1.00	0.96	0.97	0.99	0.89	0.69	0.40	0.15	0.03	0.03	0.03	0.03
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.03	0.03	0.03	0.03	0.03	0.15	0.40	0.69	0.89	0.99	0.97	0.96

Ref Az: 80.0

Using DEFAULT vertical antenna pattern

D/U Baseline: -9.00

	Area	Pop
Interference	141.23	215

KPAL-L 34-32-50 118-12-53 38(+) 4.470 kw 1595 m DA 50.0 % 74.0 dBu
PALMDALE CA
LIC BLTTL19900723II

1.00	0.97	0.88	0.76	0.60	0.46	0.25	0.06	0.03	0.03	0.03	0.03
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.03	0.03	0.03	0.03	0.03	0.06	0.25	0.46	0.60	0.76	0.88	0.97

Ref Az: 90.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	693.3940	103466
not affected by terrain losses	665.1745	103141

KNXT-LP 35-07-04 119-27-36 38(+) 150.000 kw 515 m DA 10.0 % 74.0
MARICOPA ETC. CA

PROPOSED

1.00	0.96	0.97	0.99	0.89	0.69	0.40	0.15	0.03	0.03	0.03	0.03
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.03	0.03	0.03	0.03	0.03	0.15	0.40	0.69	0.89	0.99	0.97	0.96

Ref Az: 80.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 45.00

	Area	Pop
Interference	0	0

KPXN 34-12-46 118-03-41 38(N) 1000.000 kw 1706.6 m DA 90.0 % 41.0 dBu
SAN BERNARDINO CA 16989 11222

CP MOD BMPCDT20021126AAU

0.27 0.28 0.26 0.26 0.33 0.47 0.65 0.81 0.94 1.00 0.98 0.90
0.78 0.63 0.47 0.32 0.19 0.09 0.04 0.05 0.09 0.13 0.15 0.14
0.10 0.06 0.04 0.10 0.19 0.28 0.33 0.33 0.29 0.23 0.21 0.23
(95.0 1.00)(185.0 0.04)(255.0 0.04)(305.0 0.34)

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	34337.00	13524841
not affected by terrain losses	23847.81	11909824

KNXT-LP 35-07-04 119-27-36 38(+) 150.000 kw 515 m DA 10.0 % 74.0
MARICOPA ETC. CA

PROPOSED

1.00 0.96 0.97 0.99 0.89 0.69 0.40 0.15 0.03 0.03 0.03 0.03
0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03
0.03 0.03 0.03 0.03 0.03 0.15 0.40 0.69 0.89 0.99 0.97 0.96

Ref Az: 80.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 2.00

	Area	Pop
Interference	8.00	0

KPMR2 34-31-28 119-57-35 38(Z) 2450.000 kw 1260 m DA 50.0 % 64.0 dBu
SANTA BARBARA CA 22947 768 FCC NTSC BL: 969666 FCC IX POP%: 0.6

LIC BLCT20010209ABS

0.93 0.79 0.62 0.46 0.33 0.26 0.26 0.33 0.46 0.62 0.79 0.93
1.00 0.98 0.90 0.75 0.57 0.39 0.24 0.19 0.18 0.18 0.19 0.19
0.19 0.19 0.18 0.18 0.19 0.24 0.39 0.57 0.75 0.90 0.98 1.00
(122.0 1.00)(348.0 1.00)

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	26883.35	969666
not affected by terrain losses	18859.85	767720

KNXT-LP 35-07-04 119-27-36 38(+) 150.000 kw 515 m DA 10.0 % 74.0
MARICOPA ETC. CA

PROPOSED

1.00 0.96 0.97 0.99 0.89 0.69 0.40 0.15 0.03 0.03 0.03 0.03
0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03
0.03 0.03 0.03 0.03 0.03 0.15 0.40 0.69 0.89 0.99 0.97 0.96

Ref Az: 80.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	Pop
Interference	8.06	0

KPMR 34-31-28 119-57-35 38(Z) 2450.000 kw 1260 m DA 50.0 % 64.0 dBu
SANTA BARBARA CA 22947 768 FCC NTSC BL: 969666 FCC IX POP%: 0.6
CP MOD BMPCT20000406AAS

0.93 0.79 0.62 0.46 0.33 0.26 0.26 0.33 0.46 0.62 0.79 0.93
1.00 0.98 0.90 0.75 0.57 0.39 0.24 0.19 0.18 0.18 0.19 0.19
0.19 0.19 0.18 0.18 0.19 0.24 0.39 0.57 0.75 0.90 0.98 1.00
(122.0 1.00)(348.0 1.00)

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	26883.35	969666
not affected by terrain losses	18859.85	767720

KNXT-LP 35-07-04 119-27-36 38(+) 150.000 kw 515 m DA 10.0 % 74.0
MARICOPA ETC. CA
PROPOSED

1.00 0.96 0.97 0.99 0.89 0.69 0.40 0.15 0.03 0.03 0.03 0.03
0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03
0.03 0.03 0.03 0.03 0.03 0.15 0.40 0.69 0.89 0.99 0.97 0.96

Ref Az: 80.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 28.00

	Area	Pop
Interference	8.06	0

KUVI-T 35-26-20 118-44-24 45(+) 5000.000 kw 1117 m DA 50.0 % 64.6 dBu
BAKERSFIELD CA 15924 517 FCC NTSC BL: 594189 FCC IX POP%: 0.5
LIC BLCT19881229KF

0.83 0.71 0.60 0.47 0.35 0.27 0.23 0.24 0.27 0.28 0.25 0.20
0.19 0.18 0.25 0.36 0.41 0.44 0.46 0.46 0.46 0.47 0.47 0.48
0.49 0.51 0.55 0.61 0.69 0.76 0.84 0.92 0.99 1.00 0.98 0.91

Ref Az: 0.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	20411.62	594435
not affected by terrain losses	16267.07	560545

KNXT-LP 35-07-04 119-27-36 38(+) 150.000 kw 515 m DA 10.0 % 74.0
MARICOPA ETC. CA
PROPOSED

1.00 0.96 0.97 0.99 0.89 0.69 0.40 0.15 0.03 0.03 0.03 0.03
0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03
0.03 0.03 0.03 0.03 0.03 0.15 0.40 0.69 0.89 0.99 0.97 0.96

Ref Az: 80.0

Using DEFAULT vertical antenna pattern

D/U Baseline: -30.00

	Area	Pop
Interference	3.99	0

K53IB 35-01-56 118-29-02 53(-) 150.000 kw 2450 m DA 50.0 % 75.2 dBu
BAKERSFIELD CA

APP BMPTTL20030609ADZ

1.00 0.89 0.62 0.25 0.08 0.04 0.03 0.02 0.02 0.04 0.03 0.02
0.02 0.02 0.03 0.04 0.02 0.02 0.03 0.04 0.08 0.25 0.62 0.89
1.00 0.49 0.25 0.12 0.07 0.05 0.04 0.05 0.07 0.12 0.25 0.49

Ref Az: 275.0

Using DEFAULT vertical antenna pattern

	Area	Pop
within Noise Limited Contour	3328.643	170218
not affected by terrain losses	2842.798	154837

KNXT-LP 35-07-04 119-27-36 38(+) 150.000 kw 515 m DA 10.0 % 74.0
MARICOPA ETC. CA

PROPOSED

1.00 0.96 0.97 0.99 0.89 0.69 0.40 0.15 0.03 0.03 0.03 0.03
0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03 0.03
0.03 0.03 0.03 0.03 0.03 0.15 0.40 0.69 0.89 0.99 0.97 0.96

Ref Az: 80.0

Using DEFAULT vertical antenna pattern

D/U Baseline: 9999.00

	Area	Pop
Interference	0	0

SUMMARY OF CALCULATIONS

Facility	Channel	Type	Baseline	Permissible	IX	%Base
KERO-TV, BAKERSFIELD, CA	23	TV	788152	0.5	215	0.03
KPAL-LP, PALMDALE, CA	38	TV	103466	0.5	0	0.00
KPXN, SAN BERNARDINO, C	38	DTV	13524841	0.5	0	0.00
KPMR, SANTA BARBARA, CA	38	TV	969666	0.5	0	0.00
KPMR, SANTA BARBARA, CA	38	TV	969666	0.5	0	0.00
KUVI-TV, BAKERSFIELD, CA	45	TV	594435	0.5	0	0.00
K53IB, BAKERSFIELD, CA	53	TV	170218	0.5	0	0.00

DATE 5/18/93
ANTENNA GAIN : 16 BAYNULL FILL 0 %

ELEVATION	FIELD	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0
+2.00	0.564	:	+	+	+	+	+	*	+	+	+
+0.00	1.000	:	+	+	+	+	+	+	+	+	+
-2.00	0.564	:					*				
-4.00	0.099	:	*								
-6.00	0.167	:		*							
-8.00	0.093	:	*								
-10.00	0.078	:	*								
-12.00	0.083	:	*								
-14.00	0.038	:	*								
-16.00	0.073	:	*								
-18.00	0.016	:	*								
-20.00	0.064	:	*								
-22.00	0.005	:	*								
-24.00	0.057	:	*								
-26.00	0.002	:	*								
-28.00	0.052	:	*								
-30.00	0.004	:	*								
-32.00	0.049	:	*								
-34.00	0.013	:	*								
-36.00	0.044	:	*								
-38.00	0.026	:	*								
-40.00	0.034	:	*								
-42.00	0.041	:	*								
-44.00	0.011	:	*								
-46.00	0.049	:	*								
-48.00	0.023	:	*								
-50.00	0.032	:	*								
-52.00	0.052	:	*								
-54.00	0.017	:	*								
-56.00	0.036	:	*								
-58.00	0.060	:	*								
-60.00	0.036	:	*								
-62.00	0.016	:	*								
-64.00	0.062	:	*								
-66.00	0.077	:	*								
-68.00	0.054	:	*								
-70.00	0.005	:	*								
-72.00	0.053	:	*								
-74.00	0.105	:		*							
-76.00	0.144	:		*							
-78.00	0.166	:		*							
-80.00	0.174	:		*							
-82.00	0.172	:		*							
-84.00	0.163	:		*							
-86.00	0.151	:		*							
-88.00	0.138	:		*							
-90.00	0.124	:		*							