

TECHNICAL EXHIBIT  
APPLICATION FOR FM CONSTRUCTION PERMIT  
FM BOOSTER  
RADIO STATION KXRK(FM)  
PARK CITY, UTAH

FEBRUARY 13, 2004

CH 242 1.3 KW (MAX-DA)

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Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an application for a new FM booster at Park City, Utah. The primary station is KXRK(FM) on Channel 242C assigned to Provo, Utah.

Proposed Transmitter Location

The location is uniquely described by the following geographic coordinates:

40° 51' 18" North Latitude  
111° 28' 47" West Longitude

A map showing the transmitter location is included herein as Figure 1. A sketch showing the proposed antenna and supporting structure is shown on Figure 2.

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Coverage Contours

Figure 3 is a map showing the proposed booster station's 60 dBu (1.0 mV/m) coverage contour encompassed by the primary station's (KXRK(FM), Channel 242C, Provo, Utah) 60 dBu protected contour.<sup>1</sup>

The appendix contains the information on the proposed Jampro directional antenna. Also proposed in the Appendix is a certification from the proposed antenna manufacturer that the new antenna will not affect the other antennas located on the tower is provided.

Allocation Study

The proposed facility will cause prohibited contour overlap to first-adjacent translator K243AC at Park City, Utah. However, the licensee of the translator has agreed to turn in its license when this instant proposed booster facility becomes operational. Therefore, it is requested that this booster be granted with a special condition on its construction permit requiring K243AC to turn in its license prior to commencement of operation.

Radiofrequency Electromagnetic Field Exposure

The proposed facility has been evaluated in terms of potential radiofrequency electromagnetic field exposure at ground level in accordance with OST Bulletin No. 65, "Evaluating compliance with FCC Specified Guidelines for Human

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<sup>1</sup> The KXRK(FM) licensed facility, BLH-20021113AAN, is used to define the primary station.

Exposure to Radiofrequency Electromagnetic Fields."<sup>2</sup> The proposed calculated power density at the base of the tower was calculated using the appropriate equation on Page 23 of the Bulletin.

Using a total effective radiated power of 2.6 kilowatt and a reasonable assumed downward relative field value of 0.2, the predicted power density at ground level located 31 meters (100 feet) below the antenna radiation center is 0.004 mW/cm<sup>2</sup>. This is less than 5 percent of the Commission's guideline in an uncontrolled environment for a FM radio station.<sup>3</sup>

Access to the transmitting site is restricted and appropriately marked with warning signs. When it becomes necessary for workers to ascend the tower, appropriate measures, such as reduction or shut down of power if necessary, shall be taken to ensure that the human exposure to radiofrequency electromagnetic fields will not exceed the FCC guidelines.

Charles A. Cooper

February 13, 2004

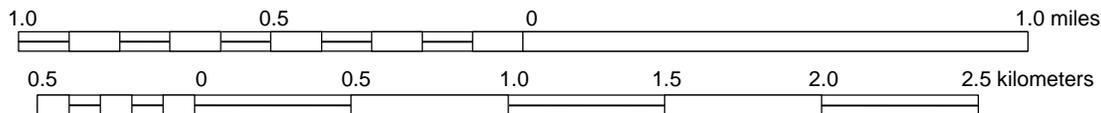
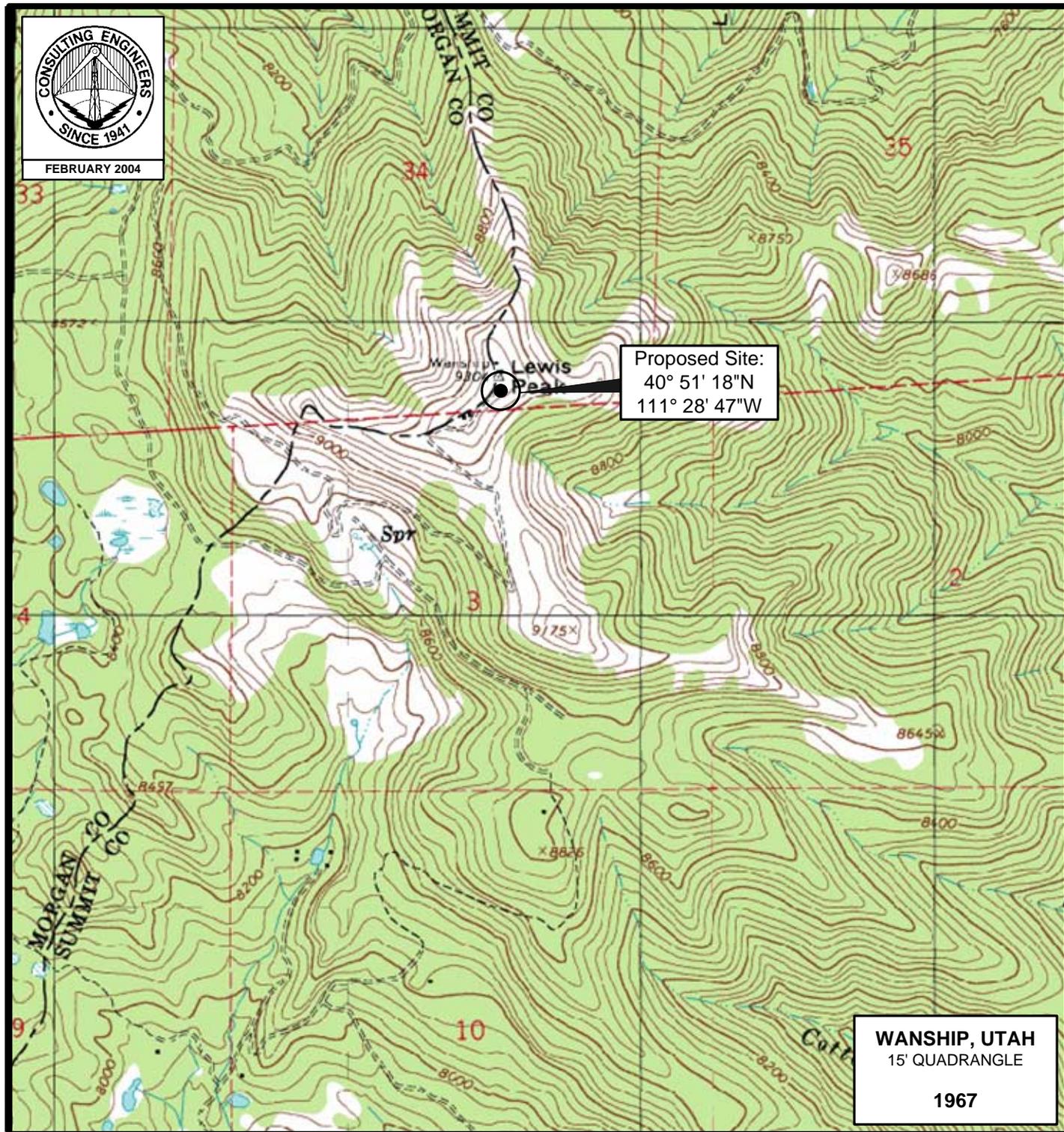
du Treil, Lundin & Rackley, Inc.  
201 Fletcher Avenue  
Sarasota, Florida 34237  
941.329.6000

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<sup>2</sup> OET Bulletin 65, Second Edition 97-01, August, 1997.

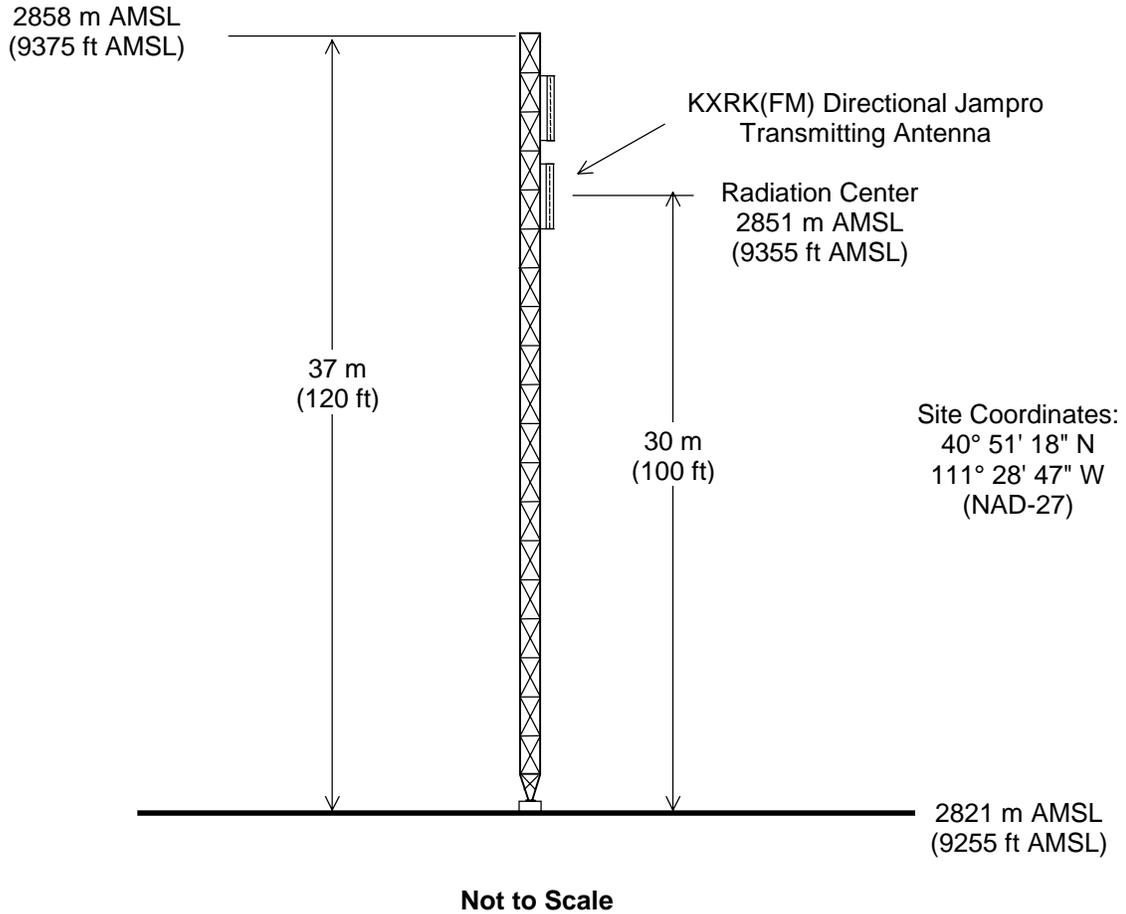
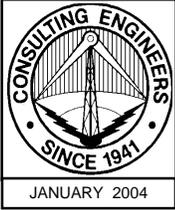
<sup>3</sup> The FCC maximum guideline for an FM broadcast radio station in an uncontrolled environment is 0.2 mW/cm<sup>2</sup>.

Figure 1



**PROPOSED TRANSMITTER SITE**  
**RADIO STATION KXRK(FM) BOOSTER**  
**PARK CITY, UTAH**  
**CH 242 1.3 KW (MAX-DA)**

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



## PROPOSED ANTENNA AND SUPPORTING STRUCTURE

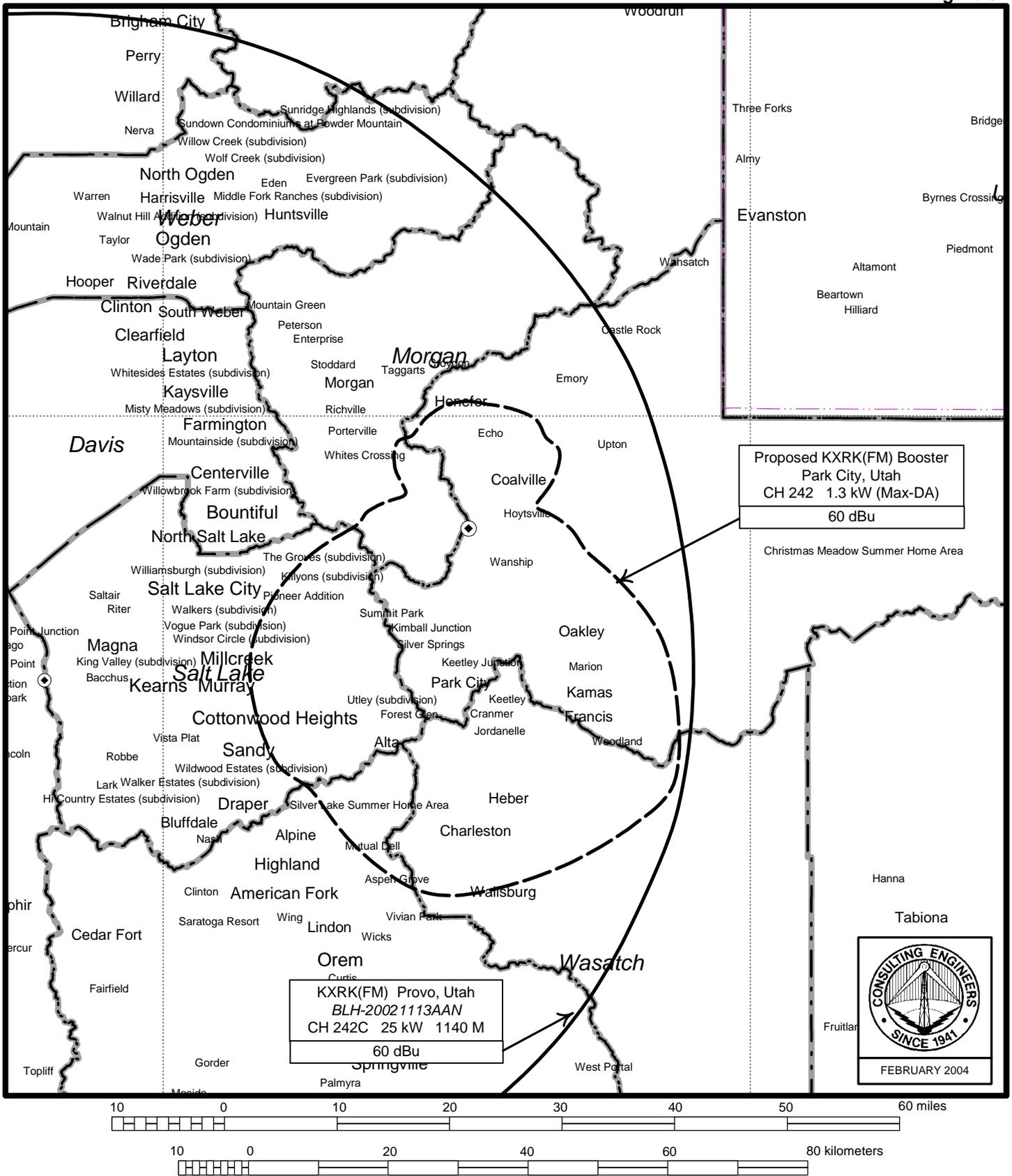
RADIO STATION KXRK(FM) BOOSTER

PARK CITY, UTAH

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

Figure 3

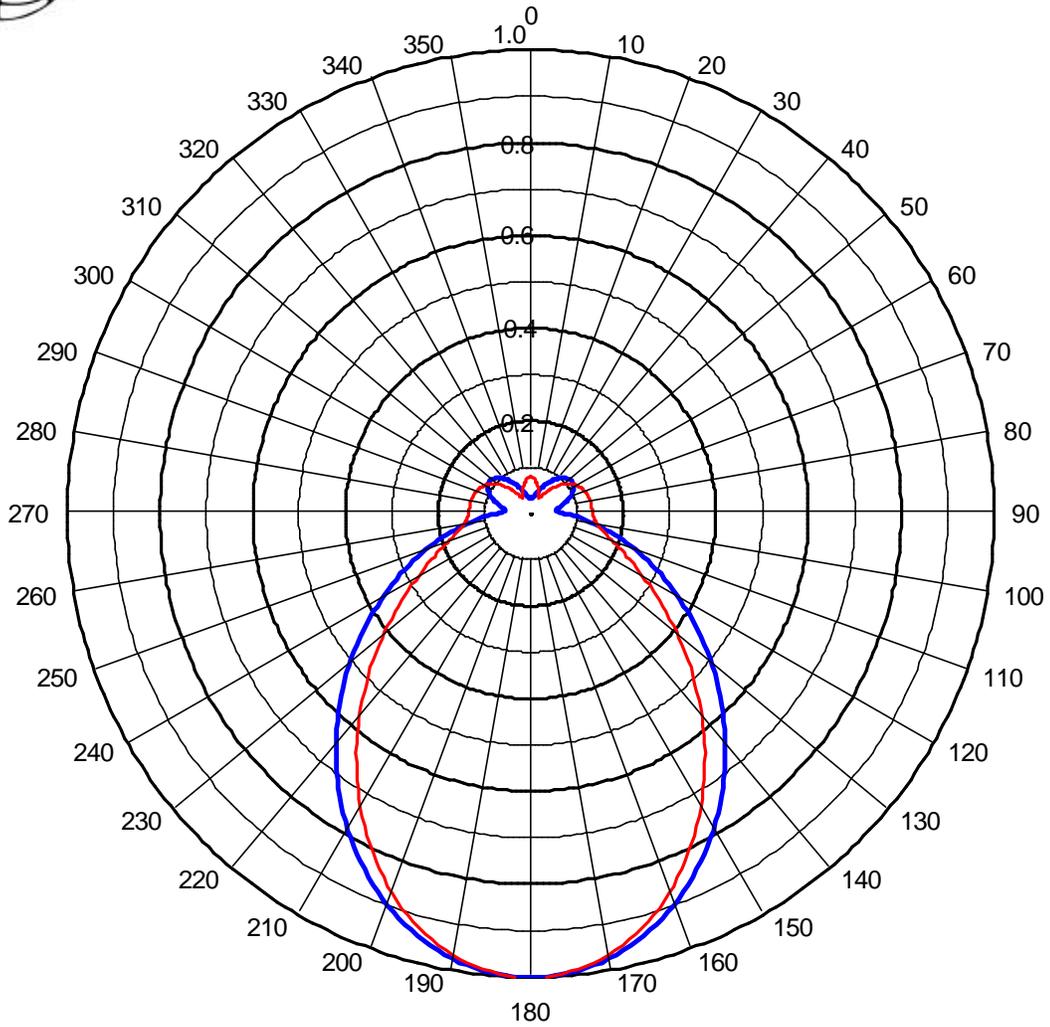


### FCC PREDICTED COVERAGE CONTOURS

RADIO STATION KXRK(FM) BOOSTER  
 PARK CITY, UTAH  
 CH 242 1.3 KW (MAX-DA)

## APPENDIX A

### MANUFACTURER DIRECTIONAL ANTENNA SPECIFICATIONS



**AZIMUTH PATTERN INFORMATION**

Frequency: 96.3 MHz

Model: JCPD

Pattern: Single Lobe

Notes: FM 4-Dipole Panel Antenna



<u>AZIMUTH</u>	<u>HPOL</u>	<u>VPOL</u>	<u>AZIMUTH</u>	<u>HPOL</u>	<u>VPOL</u>
0	0.032	0.080	180	1.000	1.000
5	0.033	0.077	185	0.993	0.991
10	0.037	0.069	190	0.974	0.966
15	0.044	0.058	195	0.942	0.926
20	0.053	0.046	200	0.900	0.872
25	0.065	0.038	205	0.848	0.807
30	0.078	0.042	210	0.788	0.734
35	0.090	0.055	215	0.723	0.655
40	0.100	0.070	220	0.654	0.574
45	0.108	0.086	225	0.583	0.495
50	0.112	0.099	230	0.511	0.419
55	0.111	0.110	235	0.441	0.349
60	0.107	0.118	240	0.373	0.288
65	0.098	0.124	245	0.310	0.236
70	0.086	0.128	250	0.250	0.196
75	0.071	0.130	255	0.195	0.167
80	0.058	0.131	260	0.147	0.148
85	0.056	0.132	265	0.105	0.138
90	0.073	0.134	270	0.073	0.134
95	0.105	0.138	275	0.056	0.132
100	0.147	0.148	280	0.058	0.131
105	0.195	0.167	285	0.071	0.130
110	0.250	0.196	290	0.086	0.128
115	0.310	0.236	295	0.098	0.124
120	0.373	0.288	300	0.107	0.118
125	0.441	0.349	305	0.111	0.110
130	0.511	0.419	310	0.112	0.099
135	0.583	0.495	315	0.108	0.086
140	0.654	0.574	320	0.100	0.070
145	0.723	0.655	325	0.090	0.055
150	0.788	0.734	330	0.078	0.042
155	0.848	0.807	335	0.065	0.038
160	0.900	0.872	340	0.053	0.046
165	0.942	0.926	345	0.044	0.058
170	0.974	0.966	350	0.037	0.069
175	0.993	0.991	355	0.033	0.077

APPENDIX B

MANUFACTURER CERTIFICATION  
OF NON-ADVERSE IMPACT TO OTHER  
CO-LOCATED ANTENNAS



6340 Sky Creek Dr.  
Sacramento, CA 95826  
Ph: 916-383-1177  
Fx: 916-383-1182

February 17, 2004

Scot Mathews  
Simmons Media Group  
57 West S. Temple, Ste. 700  
Salt Lake City, UT 84101

Re: Lewis Peak

Dear Scot:

We have reviewed the information describing how the Jampro FM JCPD panel antenna (KEGA) will be mounted vertically close to another Jampro FM JCPD panel (KXRK) and a Scala antenna (KZBN). The Scala being mounted on the same tower but lower than the two FM panel antennas should have negligible effects if any on the directional azimuth pattern.

Furthermore, the two JCPD panel antennas should not affect the pattern of either since there is a vertical separation from each other. While we expect negligible effects Jampro cannot warrant or guarantee that such effects might not occur.

In addition, Jampro recommends the use of band pass filters in each transmission system to guarantee there are no spurious emissions being generated from this site.

Regards,

Greg Montano  
Domestic Sales  
Jampro Antennas, Inc.  
[greg@jampro.com](mailto:greg@jampro.com)

**Over 45 Years of putting your signal in its place!**  
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