

TECHNICAL EXHIBIT  
APPLICATION FOR FM CONSTRUCTION PERMIT  
FM BOOSTER STATION KEGA-FM  
PROVO, UTAH

JULY 9, 2004

CH 268    0.6 KW (MAX-DA)

TECHNICAL EXHIBIT  
APPLICATION FOR FM CONSTRUCTION PERMIT  
FM BOOSTER STATION KEGA-FM  
PROVO, UTAH  
CH 268 0.6 KW (MAX-DA)

Table of Contents

	Technical Narrative
Figure 1	Proposed Transmitter Location
Figure 2	Proposed Antenna and Supporting Structure
Figure 3	Map Showing Predicted Coverage Contours
Appendix	

TECHNICAL EXHIBIT  
APPLICATION FOR FM CONSTRUCTION PERMIT  
FM BOOSTER STATION KEGA(FM)  
PROVO, UTAH  
CH 268 0.6 KW (MAX-DA)

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an application to modify the booster station at Provo, Utah (BLFTB-20030918ABA). The primary station is KEGA-FM on Channel 268C assigned to Oakley, Utah.

Proposed Transmitter Location

The proposed location is uniquely described by the following geographic coordinates:

40° 18' 00" North Latitude  
111° 38' 38" 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.

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 (KEGA-FM) 60 dBu protected contour. Seventy-two evenly spaced radials, every five degrees of azimuth, were used to define the contours.

The appendix contains the information on the proposed Jampro master directional antenna system.

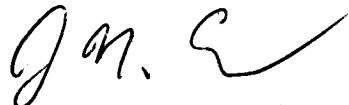
Allocation Study

The proposed booster facility appears to satisfy the protection requirements toward first adjacent channel stations as required by Section 74.1204(i) of the Commission's Rules as to all facilities.

Radiofrequency Electromagnetic Field Exposure

Due to the multiple emitters either proposed or presently located on the tower, the applicant will undertake a radiofrequency electromagnetic field exposure survey after construction to ensure that any areas at ground level that exceed the Commission's exposure guideline values are appropriately marked and fenced. The results of the survey will be provided with the application for license.

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. It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already have been provided to the FCC by the tower owner.

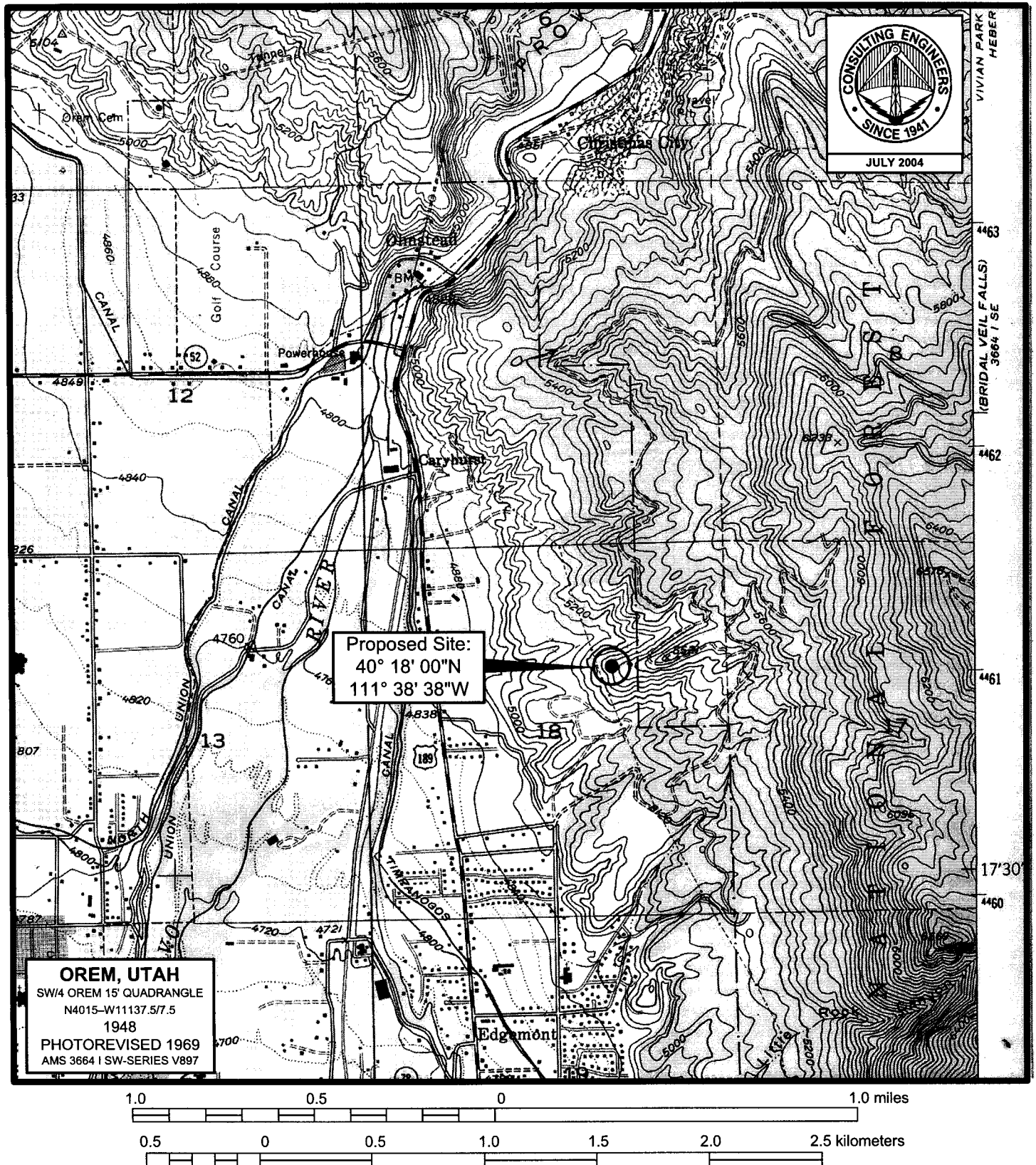


Jonathan N. Edwards

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

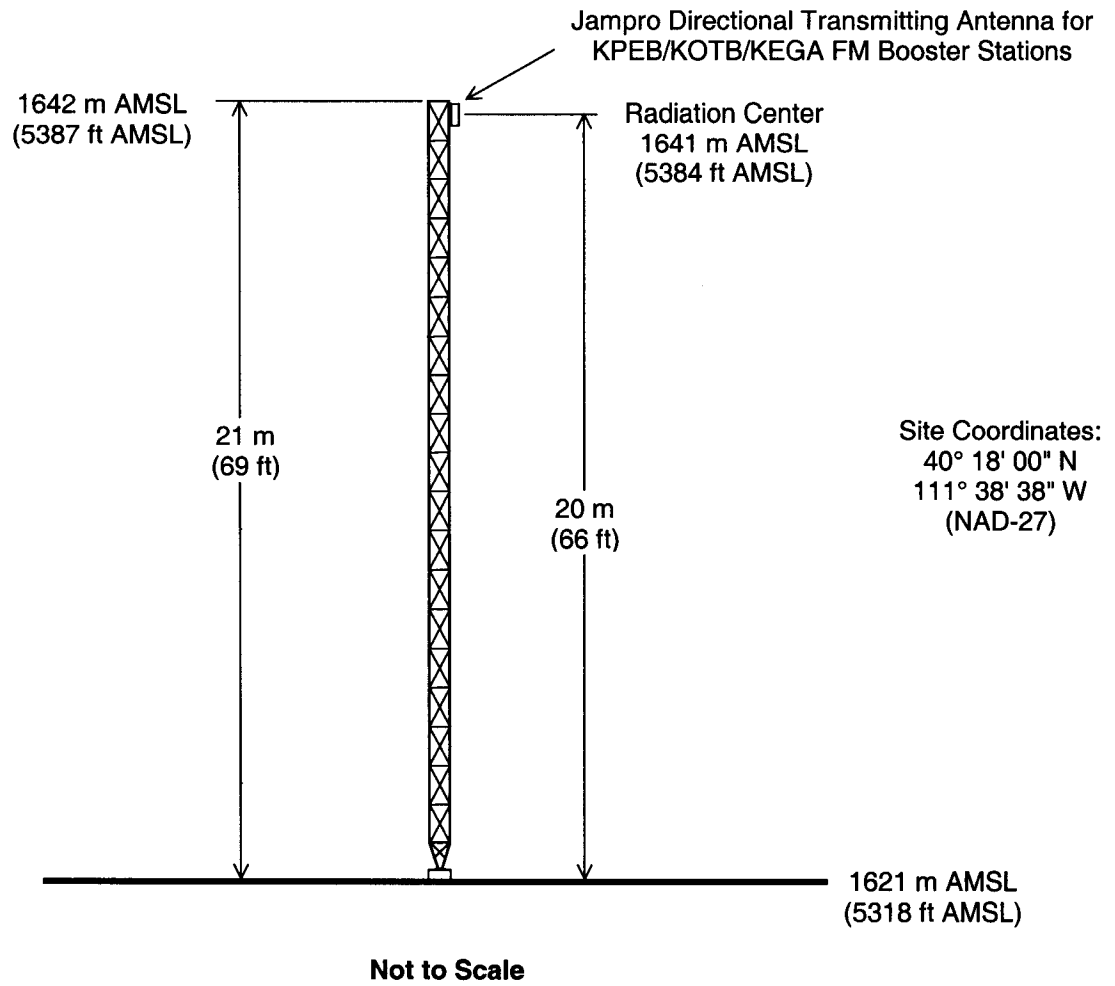
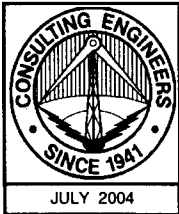
July 9, 2004

Figure 1



**PROPOSED TRANSMITTER SITE**  
**RADIO STATION KEGA-FM BOOSTER**  
**PROVO, UTAH**  
**CH 268 0.6 KW (MAX-DA)**

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



## **PROPOSED ANTENNA AND SUPPORTING STRUCTURE**

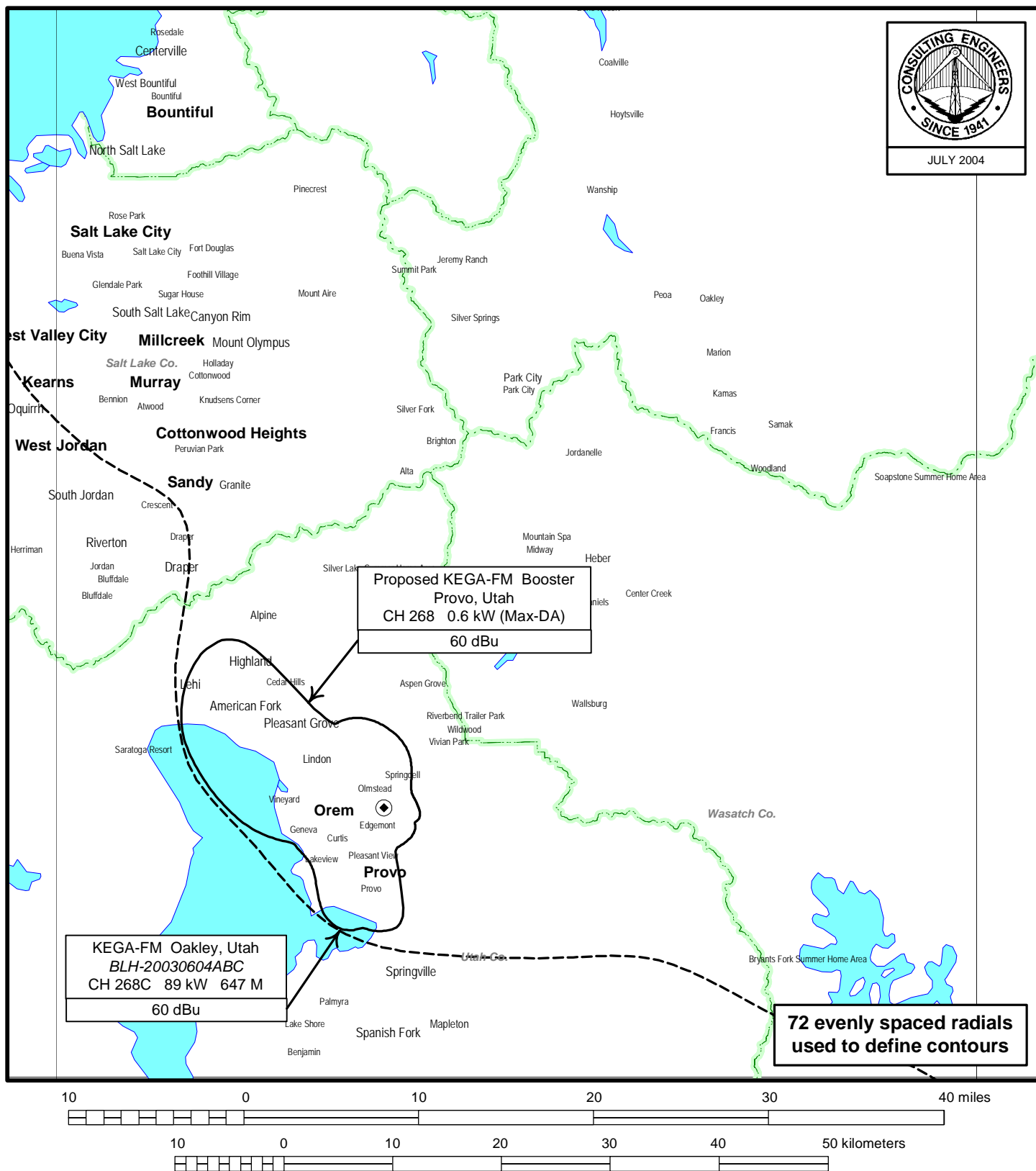
**RADIO STATION KEGA-FM BOOSTER**

**PROVO, UTAH**

**CH 268 0.6 KW (MAX-DA)**

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

Figure 3



## FCC PREDICTED COVERAGE CONTOURS

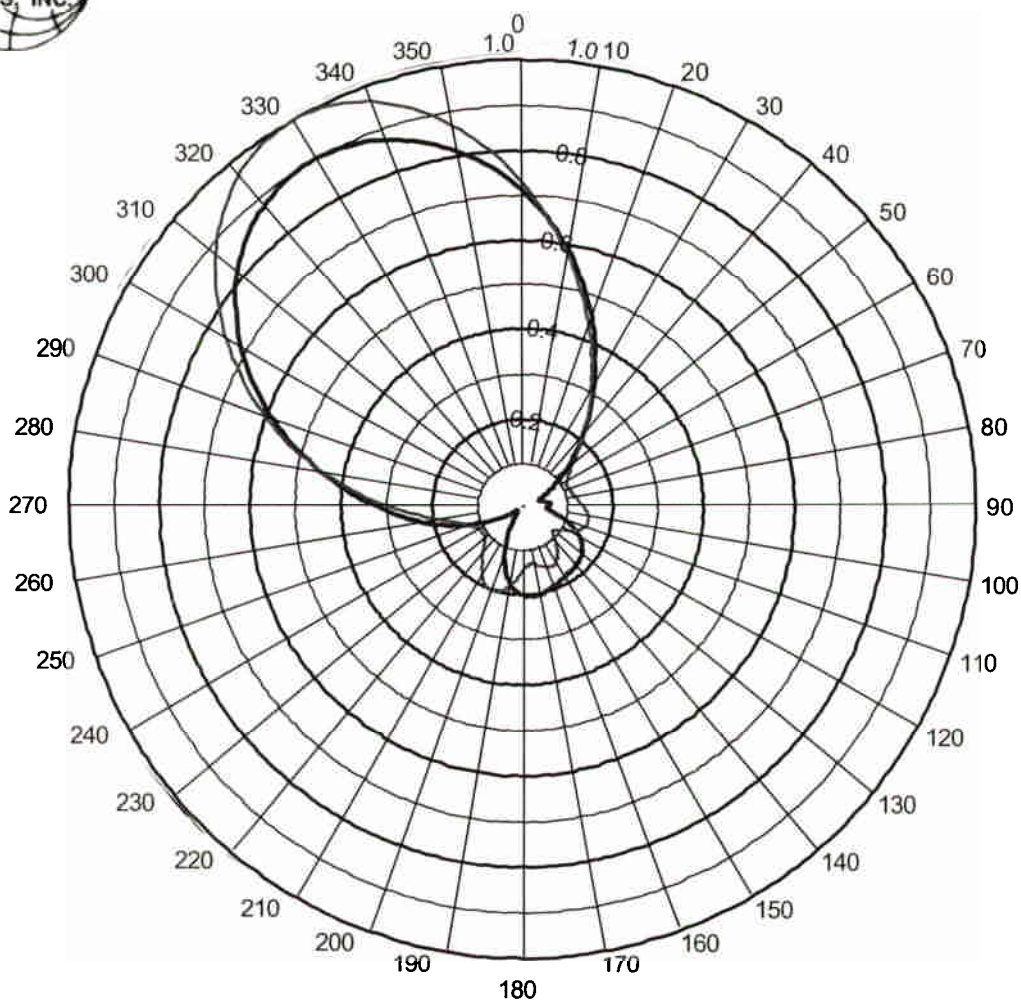
RADIO STATION KEGA-FM BOOSTER  
PROVO, UTAH  
CH 268 0.6 KW (MAX-DA)

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

## APPENDIX A

### MANUFACTURER DIRECTIONAL ANTENNA SPECIFICATION





### Azimuth Pattern Details

Customer: Simmons Media

Model: JCPD-1/2 (2)

Type: FM Panel Booster Antenna

Channels: 95.9-107.9 MHz

Notes: Circularly Polarized, 1-bay, 4-dipole FM Panel Antenna

Blue = H-Pol

Red = V-Pol



<u>AZIMUTH</u>	<u>HPOL</u>	<u>VPOL</u>
0	0.712	0.731
5	0.653	0.655
10	0.590	0.579
15	0.522	0.505
20	0.453	0.434
25	0.385	0.367
30	0.320	0.306
35	0.260	0.251
40	0.206	0.204
45	0.160	0.168
50	0.120	0.141
55	0.086	0.124
60	0.058	0.113
65	0.041	0.109
70	0.043	0.110
75	0.052	0.115
80	0.059	0.120
85	0.059	0.126
90	0.055	0.134
95	0.054	0.142
100	0.063	0.148
105	0.082	0.150
110	0.106	0.144
115	0.128	0.130
120	0.147	0.112
125	0.161	0.094
130	0.169	0.087
135	0.175	0.096
140	0.178	0.115
145	0.180	0.133
150	0.184	0.145
155	0.188	0.149
160	0.193	0.146
165	0.199	0.138
170	0.203	0.132
175	0.205	0.133

<u>AZIMUTH</u>	<u>HPOL</u>	<u>VPOL</u>
180	0.201	0.145
185	0.192	0.165
190	0.175	0.185
195	0.151	0.199
200	0.122	0.204
205	0.089	0.197
210	0.057	0.181
215	0.030	0.158
220	0.016	0.136
225	0.017	0.119
230	0.016	0.110
235	0.019	0.107
240	0.042	0.109
245	0.077	0.114
250	0.119	0.126
255	0.166	0.147
260	0.214	0.181
265	0.266	0.229
270	0.320	0.290
275	0.379	0.360
280	0.443	0.438
285	0.511	0.517
290	0.580	0.597
295	0.647	0.674
300	0.710	0.747
305	0.766	0.815
310	0.814	0.876
315	0.852	0.927
320	0.879	0.966
325	0.895	0.991
330	0.900	1.000
335	0.893	0.992
340	0.876	0.966
345	0.848	0.925
350	0.811	0.870
355	0.765	0.804