

MINOR MODIFICATION OF HAYWARD BOOSTER

BLFTB-20010828ABE

FOR

KKIQ, 101.7 MHZ, LIVERMORE, CA

APRIL 2013

BY:

BEEM CO.

ARCADIA, CA 626 446 3468

ENGINEERING STATEMENT OF JOEL T. SAXBERG

This minor mod. application was prepared for KKIQ, Inc., licensee of FM station KKIQ, Livermore, CA. KKIQ is proposing to relocate its Hayward, CA booster due to a loss of its present Hayward booster site.

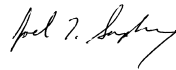
The new site will be on the roof of a five story building and the antenna will be protected from workers seeking access to the roof. The main lobes of the CL-FM antennas will be oriented at 0° and 165° with identical power (50,50) split into each log periodic antenna. A 300 watt ERP vertical polarization will be oriented to the two bearings mentioned above, 0° and 165° . KKIQ, Inc. has already made arrangements for RF exposure with warnings and placement that precludes personnel access to the antennas.

ENGINEERING CERTIFICATION

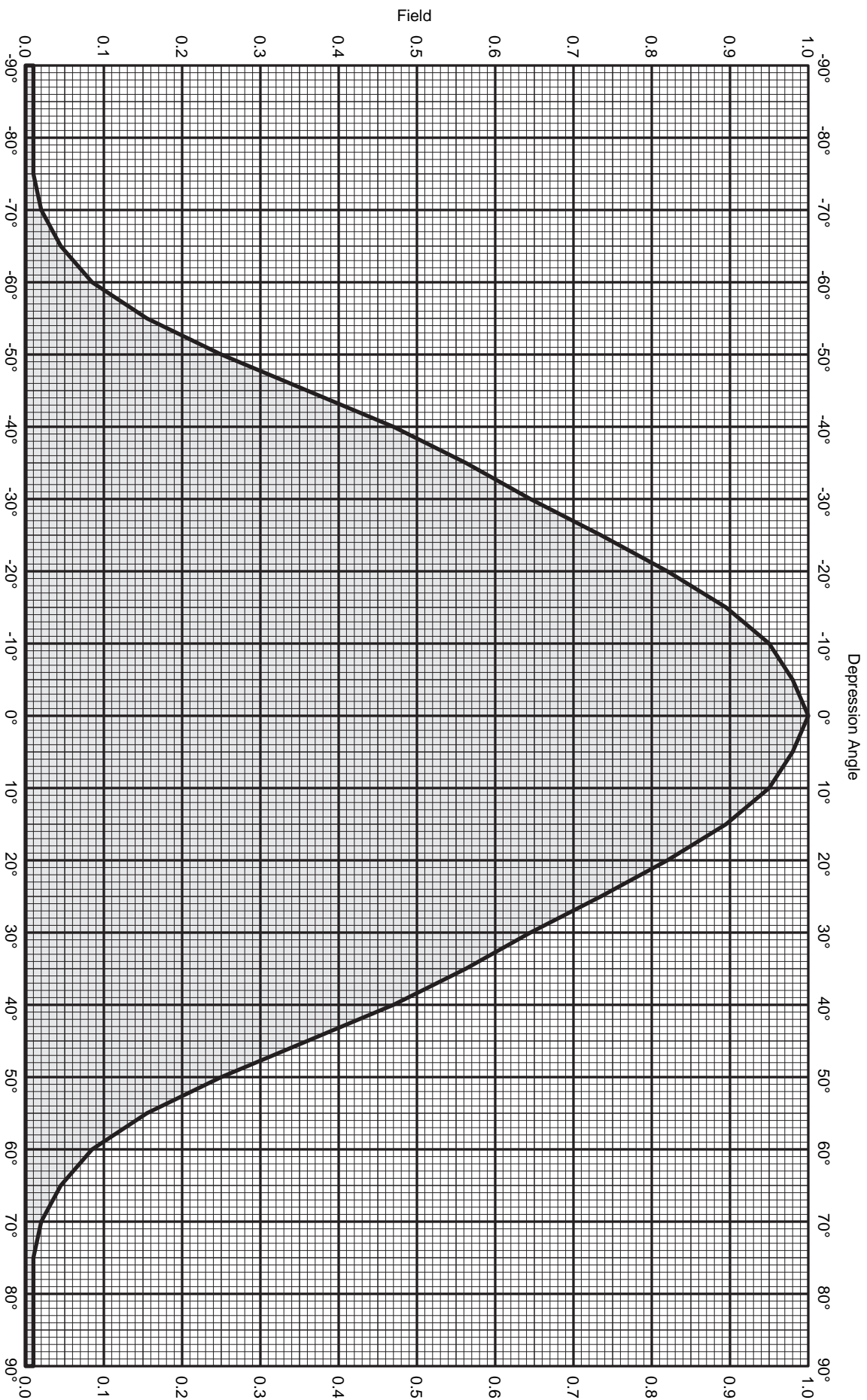
JOEL T. SAXBERG deposes and says:

1. That he is President of Broadcast Engineering and Equipment Maintenance Company, "**BEEM CO.**", radio engineering consultants. **BEEM CO.** maintains offices at: 2322 S. Second Avenue, Arcadia, CA 91006. Telephone (626) 446-3468
2. That he was graduated from California State University at Los Angeles, February 1966, with a Bachelor of Science degree in Electronic Engineering.
3. That he has submitted many applications to the Federal Communications Commission for broadcast and auxiliary broadcast construction permits and licenses.
4. That his experience in broadcast engineering is a matter of record and he has spent over forty years working in the field of radio engineering.
5. That the attached report was prepared by him or under his direction and supervision. That he believes the facts stated therein to be both true and accurate. Statements that are based on information supplied by others are also believed to be true and accurate.
6. That he has performed field work on AM and FM broadcast transmitting systems throughout this country and continues to provide technical consulting services on a daily basis to broadcasters.
7. That he declares under penalty of perjury the foregoing is true and correct.

Executed 4/11/2013
on



Joel T. Saxberg



KATHREIN
SCALA DIVISION

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One CL-FW/VRW/50N Log-periodic Antenna

Oriented at 0 degrees

Broadband 88-108 MHz

Gain: 7.0 dBd.

Vertical Polarization

Vertical plane Pattern



One CL-FM/VRM/50N Log-periodic Antenna
 Oriented at 0 degrees
 Broadband 88-108 MHz
 Gain: 7.0 dBd.

Vertical Polarization
 Vertical plane Pattern

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
-90	0.010	-40.00	-33.00	0.00	-45	0.360	-8.87	-1.87	0.65
-89	0.010	-40.00	-33.00	0.00	-44	0.382	-8.36	-1.36	0.73
-88	0.010	-40.00	-33.00	0.00	-43	0.404	-7.87	-0.87	0.82
-87	0.010	-40.00	-33.00	0.00	-42	0.426	-7.41	-0.41	0.91
-86	0.010	-40.00	-33.00	0.00	-41	0.448	-6.97	0.03	1.01
-85	0.010	-40.00	-33.00	0.00	-40	0.470	-6.56	0.44	1.11
-84	0.010	-40.00	-33.00	0.00	-39	0.488	-6.22	0.78	1.20
-83	0.010	-40.00	-33.00	0.00	-38	0.507	-5.90	1.10	1.29
-82	0.010	-40.00	-33.00	0.00	-37	0.525	-5.59	1.41	1.38
-81	0.010	-40.00	-33.00	0.00	-36	0.544	-5.29	1.71	1.48
-80	0.010	-40.00	-33.00	0.00	-35	0.562	-5.00	2.00	1.59
-79	0.010	-40.00	-33.00	0.00	-34	0.579	-4.75	2.25	1.68
-78	0.010	-40.00	-33.00	0.00	-33	0.595	-4.50	2.50	1.78
-77	0.010	-40.00	-33.00	0.00	-32	0.612	-4.26	2.74	1.88
-76	0.010	-40.00	-33.00	0.00	-31	0.628	-4.03	2.97	1.98
-75	0.010	-40.00	-33.00	0.00	-30	0.645	-3.81	3.19	2.09
-74	0.012	-38.42	-31.42	0.00	-29	0.663	-3.57	3.43	2.20
-73	0.014	-37.08	-30.08	0.00	-28	0.681	-3.34	3.66	2.32
-72	0.016	-35.92	-28.92	0.00	-27	0.699	-3.11	3.89	2.45
-71	0.018	-34.89	-27.89	0.00	-26	0.717	-2.89	4.11	2.58
-70	0.020	-33.98	-26.98	0.00	-25	0.735	-2.67	4.33	2.71
-69	0.025	-32.04	-25.04	0.00	-24	0.752	-2.48	4.52	2.83
-68	0.030	-30.46	-23.46	0.00	-23	0.769	-2.28	4.72	2.96
-67	0.035	-29.12	-22.12	0.01	-22	0.786	-2.09	4.91	3.10
-66	0.040	-27.96	-20.96	0.01	-21	0.803	-1.91	5.09	3.23
-65	0.045	-26.94	-19.94	0.01	-20	0.820	-1.72	5.28	3.37
-64	0.053	-25.51	-18.51	0.01	-19	0.835	-1.57	5.43	3.49
-63	0.061	-24.29	-17.29	0.02	-18	0.850	-1.41	5.59	3.62
-62	0.069	-23.22	-16.22	0.02	-17	0.865	-1.26	5.74	3.75
-61	0.077	-22.27	-15.27	0.03	-16	0.880	-1.11	5.89	3.88
-60	0.085	-21.41	-14.41	0.04	-15	0.895	-0.96	6.04	4.01
-59	0.099	-20.09	-13.09	0.05	-14	0.906	-0.86	6.14	4.11
-58	0.113	-18.94	-11.94	0.06	-13	0.917	-0.75	6.25	4.21
-57	0.127	-17.92	-10.92	0.08	-12	0.928	-0.65	6.35	4.32
-56	0.141	-17.02	-10.02	0.10	-11	0.939	-0.55	6.45	4.42
-55	0.155	-16.19	-9.19	0.12	-10	0.950	-0.45	6.55	4.52
-54	0.174	-15.19	-8.19	0.15	-9	0.956	-0.39	6.61	4.58
-53	0.193	-14.29	-7.29	0.19	-8	0.962	-0.34	6.66	4.64
-52	0.212	-13.47	-6.47	0.23	-7	0.968	-0.28	6.72	4.70
-51	0.231	-12.73	-5.73	0.27	-6	0.974	-0.23	6.77	4.75
-50	0.250	-12.04	-5.04	0.31	-5	0.980	-0.18	6.82	4.81
-49	0.272	-11.31	-4.31	0.37	-4	0.984	-0.14	6.86	4.85
-48	0.294	-10.63	-3.63	0.43	-3	0.988	-0.10	6.90	4.89
-47	0.316	-10.01	-3.01	0.50	-2	0.992	-0.07	6.93	4.93
-46	0.338	-9.42	-2.42	0.57	-1	0.996	-0.03	6.97	4.97
					0	1.000	0.00	7.00	5.01

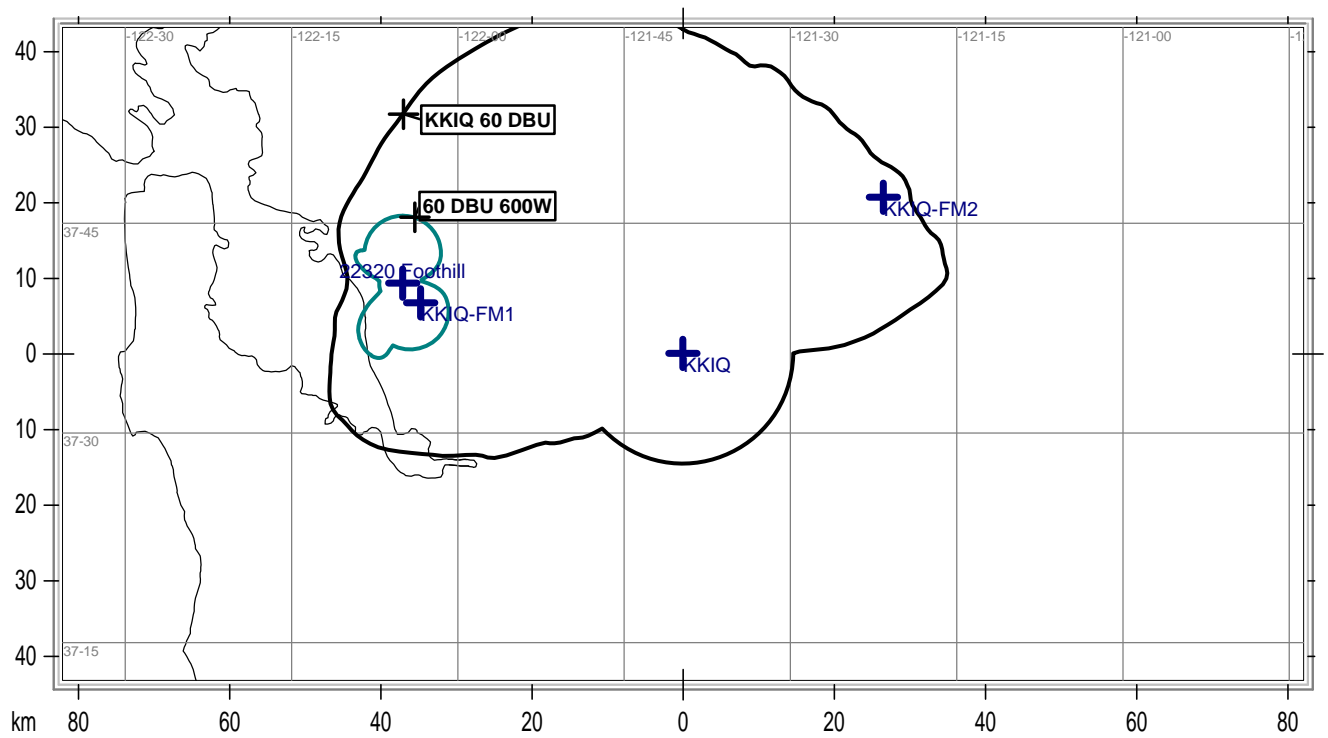


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Vertical Polarization
 Vertical plane Pattern

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
0	1.000	0.00	7.00	5.01	45	0.360	-8.87	-1.87	0.65
1	0.996	-0.03	6.97	4.97	46	0.338	-9.42	-2.42	0.57
2	0.992	-0.07	6.93	4.93	47	0.316	-10.01	-3.01	0.50
3	0.988	-0.10	6.90	4.89	48	0.294	-10.63	-3.63	0.43
4	0.984	-0.14	6.86	4.85	49	0.272	-11.31	-4.31	0.37
5	0.980	-0.18	6.82	4.81	50	0.250	-12.04	-5.04	0.31
6	0.974	-0.23	6.77	4.75	51	0.231	-12.73	-5.73	0.27
7	0.968	-0.28	6.72	4.70	52	0.212	-13.47	-6.47	0.23
8	0.962	-0.34	6.66	4.64	53	0.193	-14.29	-7.29	0.19
9	0.956	-0.39	6.61	4.58	54	0.174	-15.19	-8.19	0.15
10	0.950	-0.45	6.55	4.52	55	0.155	-16.19	-9.19	0.12
11	0.939	-0.55	6.45	4.42	56	0.141	-17.02	-10.02	0.10
12	0.928	-0.65	6.35	4.32	57	0.127	-17.92	-10.92	0.08
13	0.917	-0.75	6.25	4.21	58	0.113	-18.94	-11.94	0.06
14	0.906	-0.86	6.14	4.11	59	0.099	-20.09	-13.09	0.05
15	0.895	-0.96	6.04	4.01	60	0.085	-21.41	-14.41	0.04
16	0.880	-1.11	5.89	3.88	61	0.077	-22.27	-15.27	0.03
17	0.865	-1.26	5.74	3.75	62	0.069	-23.22	-16.22	0.02
18	0.850	-1.41	5.59	3.62	63	0.061	-24.29	-17.29	0.02
19	0.835	-1.57	5.43	3.49	64	0.053	-25.51	-18.51	0.01
20	0.820	-1.72	5.28	3.37	65	0.045	-26.94	-19.94	0.01
21	0.803	-1.91	5.09	3.23	66	0.040	-27.96	-20.96	0.01
22	0.786	-2.09	4.91	3.10	67	0.035	-29.12	-22.12	0.01
23	0.769	-2.28	4.72	2.96	68	0.030	-30.46	-23.46	0.00
24	0.752	-2.48	4.52	2.83	69	0.025	-32.04	-25.04	0.00
25	0.735	-2.67	4.33	2.71	70	0.020	-33.98	-26.98	0.00
26	0.717	-2.89	4.11	2.58	71	0.018	-34.89	-27.89	0.00
27	0.699	-3.11	3.89	2.45	72	0.016	-35.92	-28.92	0.00
28	0.681	-3.34	3.66	2.32	73	0.014	-37.08	-30.08	0.00
29	0.663	-3.57	3.43	2.20	74	0.012	-38.42	-31.42	0.00
30	0.645	-3.81	3.19	2.09	75	0.010	-40.00	-33.00	0.00
31	0.628	-4.03	2.97	1.98	76	0.010	-40.00	-33.00	0.00
32	0.612	-4.26	2.74	1.88	77	0.010	-40.00	-33.00	0.00
33	0.595	-4.50	2.50	1.78	78	0.010	-40.00	-33.00	0.00
34	0.579	-4.75	2.25	1.68	79	0.010	-40.00	-33.00	0.00
35	0.562	-5.00	2.00	1.59	80	0.010	-40.00	-33.00	0.00
36	0.544	-5.29	1.71	1.48	81	0.010	-40.00	-33.00	0.00
37	0.525	-5.59	1.41	1.38	82	0.010	-40.00	-33.00	0.00
38	0.507	-5.90	1.10	1.29	83	0.010	-40.00	-33.00	0.00
39	0.488	-6.22	0.78	1.20	84	0.010	-40.00	-33.00	0.00
40	0.470	-6.56	0.44	1.11	85	0.010	-40.00	-33.00	0.00
41	0.448	-6.97	0.03	1.01	86	0.010	-40.00	-33.00	0.00
42	0.426	-7.41	-0.41	0.91	87	0.010	-40.00	-33.00	0.00
43	0.404	-7.87	-0.87	0.82	88	0.010	-40.00	-33.00	0.00
44	0.382	-8.36	-1.36	0.73	89	0.010	-40.00	-33.00	0.00
					90	0.010	-40.00	-33.00	0.00

PROTECTED CONTOUR MAP



Map Footer

State Borders Lat/Lon Grid