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ENGINEERING REPORT:

APPLICATION FOR PROGRAM TEST AUTHORITY
KBTB(FM) MAIN
BMPH-20000831AIE
CHANNEL 239 C, 95.7 MHz
SEATTLE, WA

AK MEDIA GROUP, INC.

JANUARY 2001

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1. Purpose of Application

This Engineering Report is part of an application for program test authority for the main facility for FM station KBTB at Seattle, Washington, to cover construction permit BMPH-20000831AIE modifying BPH-19990920AAX. This facility will operate with an effective radiated power of 100.0 kilowatts at an antenna height above average terrain of 387 meters.

2. Radiofrequency Exposure

Hatfield & Dawson has been retained by both the owners and the users of the Cougar Mountain transmitting facility to assure that radiofrequency electromagnetic fields comply with FCC Guidelines. This site is in the process of being upgraded. There are several towers being constructed or dismantled, and most of the FM facilities on Cougar Mountain are undertaking some change in their main and/or auxiliary facilities (Conditions #2 & #3).

Public access to this site is restricted by a locked gate and the site is posted with warning signs. All of the users of this site have an agreement and are required to follow appropriate safety procedures before any work is commenced on the antenna towers, including reduction in power or discontinuance of operation before any maintenance work is undertaken (CP Condition #7).

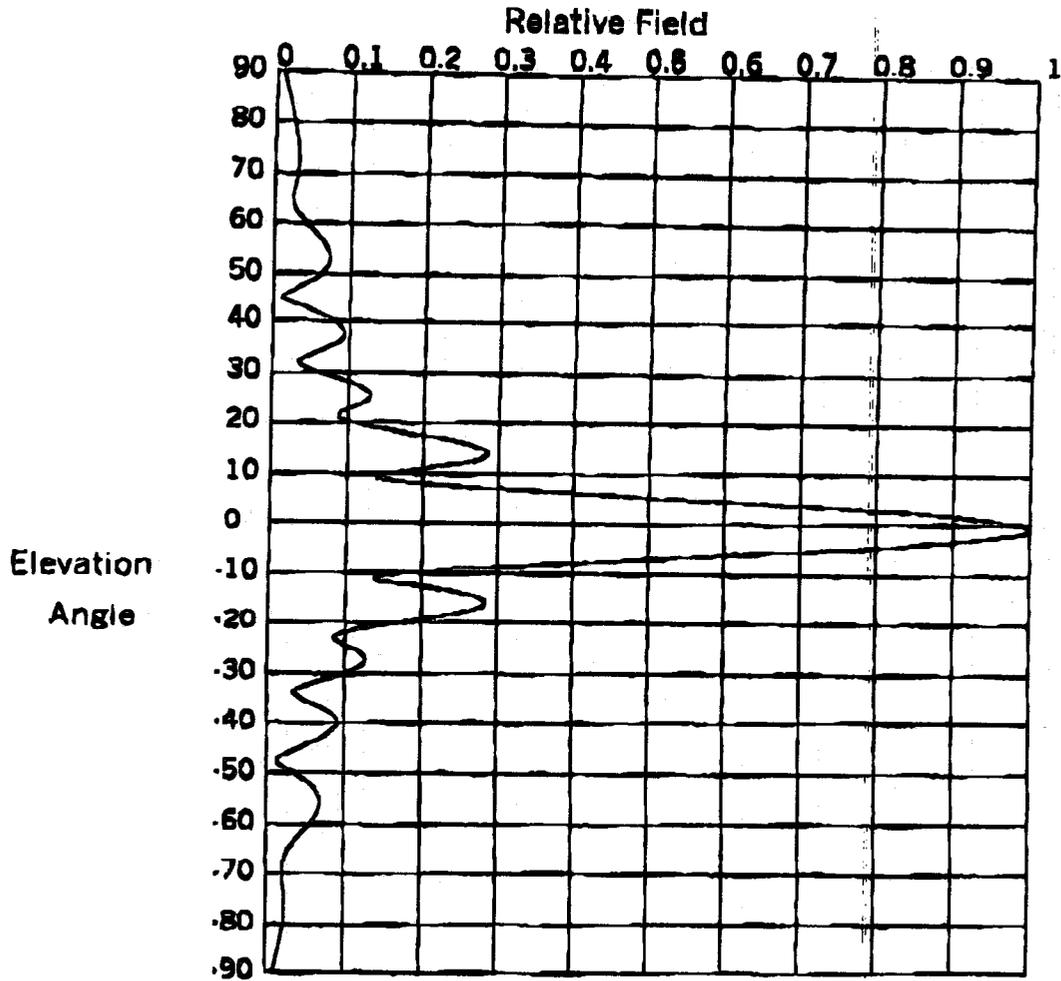
Radiofrequency electromagnetic fields measurements will be made by Hatfield & Dawson when work is substantially completed. We expect that construction will be finished within six to nine months. King County requires the users of this site to demonstrate compliance with the FCC Guidelines every two years.

3. Antenna Information

This station operates using a Jampro 3-Bay FM Spiral antenna which is shared by stations KUBE, KBTB, KPLZ, and KCMS. The attached final elevation pattern depicts the fact that this antenna has 0.8 degrees of electrical beam tilt at 95.7 MHz. The resulting effective

radiated power in the horizontal plane is 0.085 dB below the peak ERP. Therefore, given this facility's peak ERP of 100 kW, the horizontal plane ERP is 98 kW.

It is noted that the Form 301 application for this facility did not specify any beam tilt. However, since the authorized peak ERP of 100 kW for this facility will remain unchanged, the addition of beam tilt will not adversely affect the allocation circumstances for this station. Indeed, the addition of beam tilt will only serve to reduce interference in outlying areas. Therefore, it is respectfully requested that the KBTB authorization be modified to reflect the use of beam tilt.



Elevation Pattern

Scale: Linear

Units: Field, Relative

Jampro Antennas Inc.

CLIENT: RATELCO/Cougar Mtn
 ANTENNA TYPE: Spiral Antenna
 FREQUENCY: 95.7
 PATTERN POL.: Circular
 DIRECTIVITY(Peak): 3.253/5.123dBd
 DIRECTIVITY(Horiz): 3.19/5.038dBd

Date: 1/30/01

Beam Tilt (Deg.): -.8

Null Fill(s)(%): See Tab

Relative Field Tabulation

Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)
3.2	.771 (-2.254)	-4.4	.811 (-1.817)	-12.0	.17 (-15.414)
3.0	.792 (-2.024)	-4.6	.791 (-2.034)	-12.2	.179 (-14.93)
2.8	.812 (-1.807)	-4.8	.77 (-2.255)	-12.4	.189 (-14.461)
2.6	.831 (-1.604)	-5.0	.749 (-2.51)	-12.6	.199 (-14.015)
2.4	.85 (-1.415)	-5.2	.727 (-2.77)	-12.8	.209 (-13.599)
2.2	.867 (-1.238)	-5.4	.704 (-3.046)	-13.0	.218 (-13.216)
2.0	.884 (-1.074)	-5.6	.681 (-3.337)	-13.2	.227 (-12.863)
1.8	.899 (-0.923)	-5.8	.657 (-3.645)	-13.4	.236 (-12.544)
1.6	.914 (-0.783)	-6.0	.633 (-3.971)	-13.6	.244 (-12.258)
1.4	.927 (-0.656)	-6.2	.609 (-4.314)	-13.8	.251 (-12.002)
1.2	.94 (-0.54)	-6.4	.584 (-4.677)	-14.0	.258 (-11.777)
1.0	.951 (-0.436)	-6.6	.559 (-5.059)	-14.2	.264 (-11.58)
.8	.961 (-0.344)	-6.8	.533 (-5.462)	-14.4	.269 (-11.41)
.6	.97 (-0.262)	-7.0	.508 (-5.887)	-14.6	.273 (-11.267)
.4	.978 (-0.192)	-7.2	.482 (-6.335)	-14.8	.277 (-11.15)
.2	.985 (-0.133)	-7.4	.457 (-6.807)	-15.0	.28 (-11.057)
0	.99 (-0.085)	-7.6	.431 (-7.305)	-15.2	.282 (-10.988)
.2	.995 (-0.047)	-7.8	.406 (-7.829)	-15.4	.284 (-10.942)
.4	.998 (-0.021)	-8.0	.381 (-8.382)	-15.6	.285 (-10.918)
.6	.999 (-0.005)	-8.2	.356 (-8.964)	-15.8	.285 (-10.916)
.8	1.00 (0)	-8.4	.332 (-9.576)	-16.0	.284 (-10.935)
1.0	.999 (-0.006)	-8.6	.308 (-10.22)	-16.2	.283 (-10.975)
1.2	.997 (-0.022)	-8.8	.285 (-10.895)	-16.4	.281 (-11.035)
1.4	.994 (-0.05)	-9.0	.263 (-11.601)	-16.6	.278 (-11.115)
1.6	.99 (-0.088)	-9.2	.242 (-12.334)	-16.8	.275 (-11.216)
1.8	.984 (-0.137)	-9.4	.222 (-13.089)	-17.0	.271 (-11.336)
2.0	.978 (-0.197)	-9.6	.203 (-13.855)	-17.2	.267 (-11.477)
2.2	.97 (-0.268)	-9.8	.186 (-14.615)	-17.4	.262 (-11.637)
2.4	.961 (-0.35)	-10.0	.171 (-15.345)	-17.6	.257 (-11.817)
2.6	.95 (-0.443)	-10.2	.158 (-16.009)	-17.8	.251 (-12.016)
2.8	.939 (-0.548)	-10.4	.148 (-16.566)	-18.0	.244 (-12.236)
3.0	.926 (-0.664)	-10.6	.142 (-16.971)	-18.2	.238 (-12.476)
3.2	.913 (-0.792)	-10.8	.138 (-17.19)	-18.4	.231 (-12.736)
3.4	.898 (-0.931)	-11.0	.138 (-17.213)	-18.6	.223 (-13.016)
3.6	.883 (-1.083)	-11.2	.14 (-17.056)	-18.8	.216 (-13.318)
3.8	.866 (-1.248)	-11.4	.145 (-16.756)	-19.0	.208 (-13.64)
4.0	.849 (-1.425)	-11.6	.152 (-16.355)	-19.2	.20 (-13.983)
4.2	.83 (-1.614)	-11.8	.16 (-15.897)	-19.4	.192 (-14.348)

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 ANTENNA TYPE: Spiral Antenna
 FREQUENCY: 95.7
 PATTERN POL.: Circular
 DIRECTIVITY(Peak): 3.253/5.123dBd
 DIRECTIVITY(Horiz): 3.19/5.038dBd

Date: 1/30/01

Beam Tilt (Deg.): .8
 Null Fill(sX%): See Tab

Relative Field Tabulation

Elev. Angle	Re. Fld(dB)	Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)
.19.6	.183 (-14.733)	-27.2	.127 (-17.901)	-54.0	.066 (-23.679)
.19.8	.175 (-15.14)	-27.4	.127 (-17.902)	-55.0	.068 (-23.297)
.20.0	.167 (-15.567)	-27.6	.127 (-17.926)	-56.0	.069 (-23.263)
.20.2	.158 (-16.014)	-27.8	.126 (-17.971)	-57.0	.067 (-23.443)
.20.4	.15 (-16.479)	-28.0	.125 (-18.038)	-58.0	.064 (-23.815)
.20.6	.142 (-16.961)	-28.2	.124 (-18.126)	-59.0	.06 (-24.365)
.20.8	.134 (-17.457)	-28.4	.123 (-18.237)	-60.0	.056 (-25.08)
.21.0	.126 (-17.961)	-28.6	.121 (-18.37)	-61.0	.05 (-25.949)
.21.2	.119 (-18.47)	-28.8	.119 (-18.525)	-62.0	.045 (-26.961)
.21.4	.113 (-18.974)	-29.0	.116 (-18.703)	-63.0	.039 (-28.098)
.21.6	.106 (-19.464)	-29.2	.113 (-18.904)	-64.0	.034 (-29.328)
.21.8	.101 (-19.929)	-29.4	.111 (-19.129)	-65.0	.03 (-30.593)
.22.0	.096 (-20.355)	-29.6	.107 (-19.379)	-66.0	.026 (-31.795)
.22.2	.092 (-20.725)	-29.8	.104 (-19.653)	-67.0	.023 (-32.799)
.22.4	.089 (-21.027)	-30.0	.101 (-19.954)	-68.0	.021 (-33.474)
.22.6	.087 (-21.248)	-31.0	.08 (-21.888)	-69.0	.02 (-33.767)
.22.8	.085 (-21.382)	-32.0	.059 (-24.646)	-70.0	.021 (-33.74)
.23.0	.085 (-21.426)	-33.0	.039 (-28.085)	-71.0	.021 (-33.524)
.23.2	.085 (-21.386)	-34.0	.033 (-29.728)	-72.0	.022 (-33.242)
.23.4	.086 (-21.276)	-35.0	.043 (-27.356)	-73.0	.022 (-32.978)
.23.6	.088 (-21.101)	-36.0	.058 (-24.662)	-74.0	.023 (-32.77)
.23.8	.09 (-20.864)	-37.0	.073 (-22.743)	-75.0	.023 (-32.645)
.24.0	.093 (-20.637)	-38.0	.084 (-21.549)	-76.0	.023 (-32.607)
.24.2	.096 (-20.372)	-39.0	.09 (-20.933)	-77.0	.023 (-32.657)
.24.4	.099 (-20.101)	-40.0	.091 (-20.801)	-78.0	.023 (-32.79)
.24.6	.102 (-19.831)	-41.0	.088 (-21.109)	-79.0	.022 (-33.004)
.24.8	.105 (-19.569)	-42.0	.081 (-21.856)	-80.0	.022 (-33.295)
.25.0	.108 (-19.32)	-43.0	.07 (-23.081)	-81.0	.021 (-33.659)
.25.2	.111 (-19.087)	-44.0	.057 (-24.887)	-82.0	.02 (-34.096)
.25.4	.114 (-18.872)	-45.0	.042 (-27.494)	-83.0	.019 (-34.605)
.25.6	.116 (-18.677)	-46.0	.027 (-31.383)	-84.0	.017 (-35.188)
.25.8	.119 (-18.503)	-47.0	.014 (-37.251)	-85.0	.016 (-35.849)
.26.0	.121 (-18.351)	-48.0	.013 (-37.737)	-86.0	.015 (-36.595)
.26.2	.123 (-18.221)	-49.0	.024 (-32.298)	-87.0	.013 (-37.438)
.26.4	.124 (-18.113)	-50.0	.036 (-28.801)	-88.0	.012 (-38.393)
.26.6	.126 (-18.027)	-51.0	.047 (-26.378)	-89.0	.011 (-39.484)
.26.8	.125 (-17.963)	-52.0	.056 (-25.114)	-90.0	.009 (-40.746)
.27.0	.127 (-17.921)	-53.0	.062 (-24.159)		

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ENGINEERING REPORT:

INTERMODULATION MEASUREMENTS ON COMBINED FM ANTENNA SYSTEM

Ratelco Site
Cougar Mountain, Washington

January 2001

INTRODUCTION

Spectrum measurements intended to detect unwanted intermodulation products were made on the combined FM antenna system located on the Ratelco Tower, Cougar Mountain, Washington. These measurements were made between 9:00 a.m. and 12:00 p.m. on the 26th of January 2001. The measurements were made with all four stations operating into the combined Jampro Spiral master antenna. All stations were operating with licensed power with normal modulation while measurements were being made. Spectrum measurements were made to confirm that all operating stations comply with “§73.317 FM Transmission System Requirements” as required by the Construction Permits and to assure that the combiner was operating correctly.

STATIONS

The following stations will operate at this site.

Call	Frequency	Power (ERP)
KUBE	93.3 MHz	100.0 kW
KMBX	95.7 MHz	100.0 kW
KPLZ	101.5 MHz	100.0 kW
KCMS	105.3 MHz	54.0 kW

COMBINED ANTENNA MEASUREMENTS PROCEDURE

The measurements were made using a Hewlett Packard 8591E Spectrum Analyzer from the directional coupler sample port (50 dB) in the combined transmission line. A tunable bandpass cavity with 26 dB of attenuation was used to make measurements at levels more than 80 dB below the FM signals. An additional 20 dB attenuator was used to assure that the Spectrum Analyzer was not producing any internal intermodulation products. A Hewlett Packard 8640B Signal Generator was connected to a Narda 3020A Bi-Directional Coupler to tune the bandpass cavity to the desired frequency. See enclosed Test Setup Diagram.

The bandpass cavity was tuned to the frequency of each of the predicted intermodulation products. Measurements were made on each potential intermodulation product frequency from 88 MHz to 108 MHz (2A-B and 3A-2B). Frequencies above 108 MHz were swept for any observable intermodulation products. For products that were close in frequency to operating transmitters, the specific carriers were turned off to observe these intermodulation products. Enclosed are the spectral graphs of the measurements of the occupied bandwidth of each station. There were no harmonics or mix products that exceed the requirements as set forth in §73.317.

STATEMENT OF ENGINEER

This Engineering Report, which is part of applications for license for FM stations located on the Ratelco Tower on Cougar Mountain, Washington, has been prepared under my direct supervision. All representations contained herein are true to the best of my knowledge. I am an experienced radio engineer whose qualifications are a matter of record with the Federal Communications Commission. I am a partner in the firm of Hatfield and Dawson Consulting Engineers and am Registered as a Professional Engineer in the States of Washington and Alaska.

26 January 2001

Stephen S. Lockwood, P.E.



PREDICTED INTERMODULATION PRODUCTS 88-150 MHz

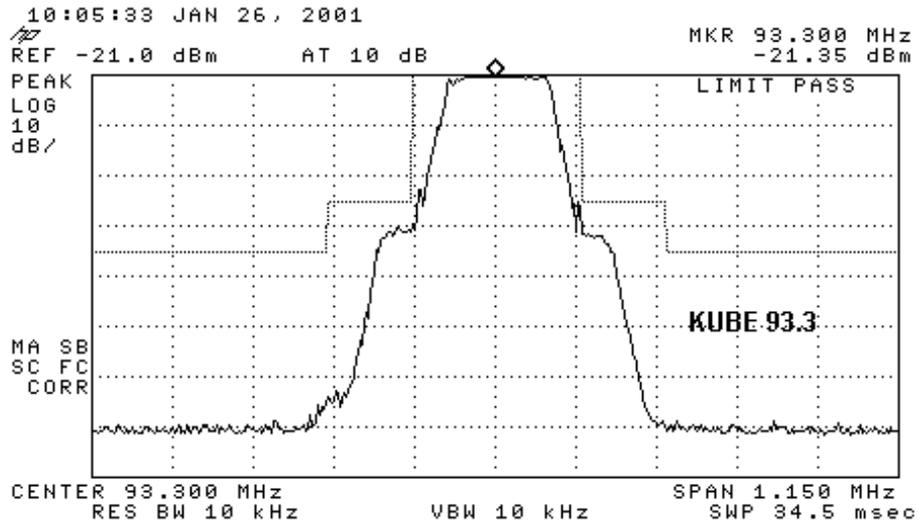
COUGAR MOUNTAIN JAMPRO SPIRAL ANTENNA

1 x 95.7	+	2 x 101.5	-	2 x 105.3	=	88.1
3 x 93.3				2 x 95.7	=	88.5
1 x 105.3	+	2 x 93.3	-	2 x 101.5	=	88.9
1 x 93.3	+	1 x 101.5	-	1 x 105.3	=	89.5
2 x 95.7				1 x 101.5	=	89.9
2 x 93.3				1 x 95.7	=	90.9
1 x 95.7	+	1 x 101.5	-	1 x 105.3	=	91.9
2 x 93.3	+	2 x 105.3	-	3 x 101.5	=	92.7
1 x 105.3	+	2 x 95.7	-	2 x 101.5	=	93.7
3 x 101.5				2 x 105.3	=	93.9
1 x 101.5	+	3 x 93.3	-	3 x 95.7	=	94.3
1 x 101.5	+	2 x 93.3	-	2 x 95.7	=	96.7
1 x 93.3	+	1 x 105.3	-	1 x 101.5	=	97.1
2 x 95.7	+	2 x 105.3	-	3 x 101.5	=	97.5
2 x 101.5				1 x 105.3	=	97.7
2 x 95.7				1 x 93.3	=	98.1
1 x 93.3	+	1 x 101.5	-	1 x 95.7	=	99.1
1 x 95.7	+	1 x 105.3	-	1 x 101.5	=	99.5
3 x 95.7				2 x 93.3	=	100.5
1 x 105.3	+	2 x 93.3	-	2 x 95.7	=	100.5
1 x 93.3	+	2 x 105.3	-	2 x 101.5	=	100.9
2 x 93.3	+	2 x 101.5	-	3 x 95.7	=	102.5
1 x 93.3	+	1 x 105.3	-	1 x 95.7	=	102.9
1 x 95.7	+	2 x 105.3	-	2 x 101.5	=	103.3
1 x 95.7	+	1 x 101.5	-	1 x 93.3	=	103.9
1 x 93.3	+	3 x 105.3	-	3 x 101.5	=	104.7
1 x 93.3	+	2 x 101.5	-	2 x 95.7	=	104.9
1 x 101.5	+	2 x 95.7	-	2 x 93.3	=	106.3
1 x 95.7	+	3 x 105.3	-	3 x 101.5	=	107.1
2 x 101.5				1 x 95.7	=	107.3
1 x 95.7	+	1 x 105.3	-	1 x 93.3	=	107.7

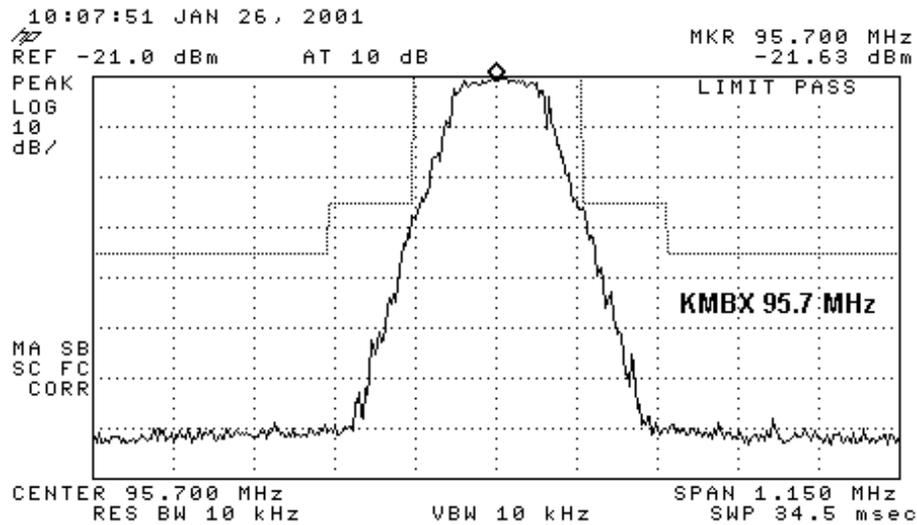
PREDICTED INTERMODULATION PRODUCTS 88-150 MHz

COUGAR MOUNTAIN JAMPRO SPIRAL ANTENNA

1 x 101.5	+	3 x 95.7	-	3 x 93.3	=	108.7
2 x 105.3	-	1 x 101.5			=	109.1
2 x 101.5	-	1 x 93.3			=	109.7
2 x 93.3	+	2 x 105.3	-	3 x 95.7	=	110.1
1 x 93.3	+	3 x 101.5	-	3 x 95.7	=	110.7
1 x 101.5	+	1 x 105.3	-	1 x 95.7	=	111.1
1 x 95.7	+	2 x 101.5	-	2 x 93.3	=	112.1
1 x 93.3	+	2 x 105.3	-	2 x 95.7	=	112.5
3 x 105.3	-	2 x 101.5			=	112.9
3 x 101.5	-	2 x 95.7			=	113.1
1 x 101.5	+	1 x 105.3	-	1 x 93.3	=	113.5
2 x 95.7	+	2 x 101.5	-	3 x 93.3	=	114.5
2 x 105.3	-	1 x 95.7			=	114.9
1 x 105.3	+	2 x 101.5	-	2 x 95.7	=	116.9
2 x 105.3	-	1 x 93.3			=	117.3
3 x 101.5	-	2 x 93.3			=	117.9
1 x 95.7	+	2 x 105.3	-	2 x 93.3	=	119.7
1 x 95.7	+	3 x 101.5	-	3 x 93.3	=	120.3
1 x 101.5	+	2 x 105.3	-	2 x 95.7	=	120.7
1 x 105.3	+	2 x 101.5	-	2 x 93.3	=	121.7
1 x 93.3	+	3 x 105.3	-	3 x 95.7	=	122.1
1 x 105.3	+	3 x 101.5	-	3 x 95.7	=	122.7
3 x 105.3	-	2 x 95.7			=	124.5
1 x 101.5	+	2 x 105.3	-	2 x 93.3	=	125.5
2 x 101.5	+	2 x 105.3	-	3 x 95.7	=	126.5
3 x 105.3	-	2 x 93.3			=	129.3
1 x 105.3	+	3 x 101.5	-	3 x 93.3	=	129.9
1 x 101.5	+	3 x 105.3	-	3 x 95.7	=	130.3
1 x 95.7	+	3 x 105.3	-	3 x 93.3	=	131.7
2 x 101.5	+	2 x 105.3	-	3 x 93.3	=	133.7
1 x 101.5	+	3 x 105.3	-	3 x 93.3	=	137.5



RT



RL

KUBE 93.3 MHz & KMBX 95.7 MHz

Ratelco Site

Cougar Mt. Washington

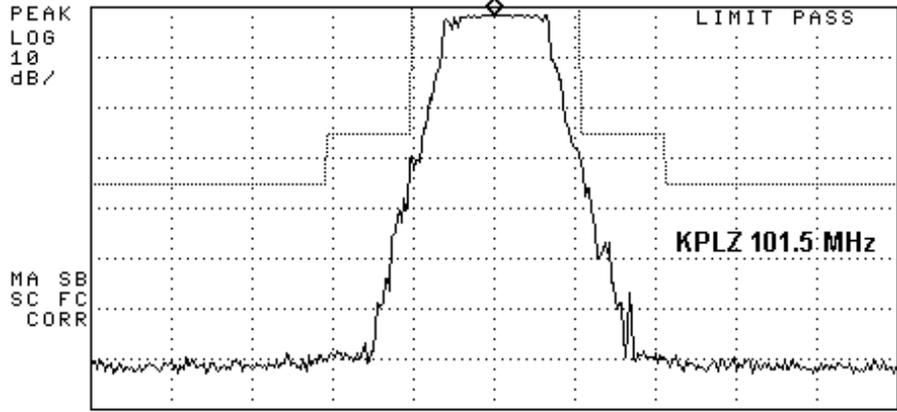
Jan 2001

10:09:50 JAN 26, 2001

REF -21.0 dBm AT 10 dB

MKR 101.500 MHz
-22.65 dBm

PEAK
LOG
10
dB/



CENTER 101.500 MHz RES BW 10 kHz VBW 10 kHz SPAN 1.150 MHz SWP 34.5 msec

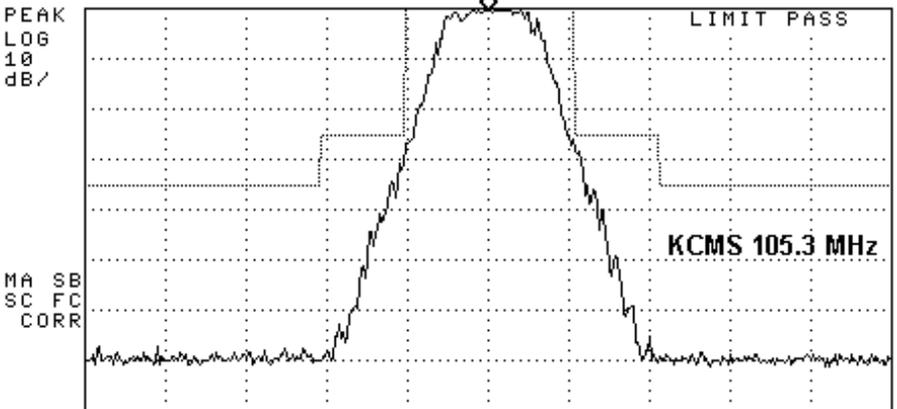
RT

10:12:50 JAN 26, 2001

REF -23.0 dBm AT 10 dB

MKR 105.300 MHz
-23.49 dBm

PEAK
LOG
10
dB/



CENTER 105.300 MHz RES BW 10 kHz VBW 10 kHz SPAN 1.150 MHz SWP 34.5 msec

RL

KPLZ 101.5 MHz & KCMS 105.3 MHz

Ratelco Site

Cougar Mt. Washington

Jan 2001

Hatfield & Dawson Consulting Engineers

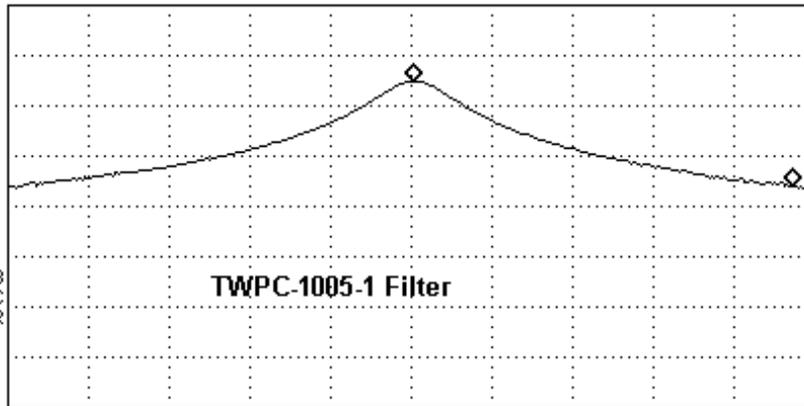
10:23:23 JAN 26, 2001

REF -40.0 dBm AT 10 dB

MKR Δ 705 kHz
-20.41 dB

PEAK
LOG
10
dB/

WA SB
SC FC
CORR



CENTER 88.103 MHz
RES BW 10 kHz

VBW 10 kHz

SPAN 1.500 MHz
SWP 45.0 msec

RL

Filter Telwave

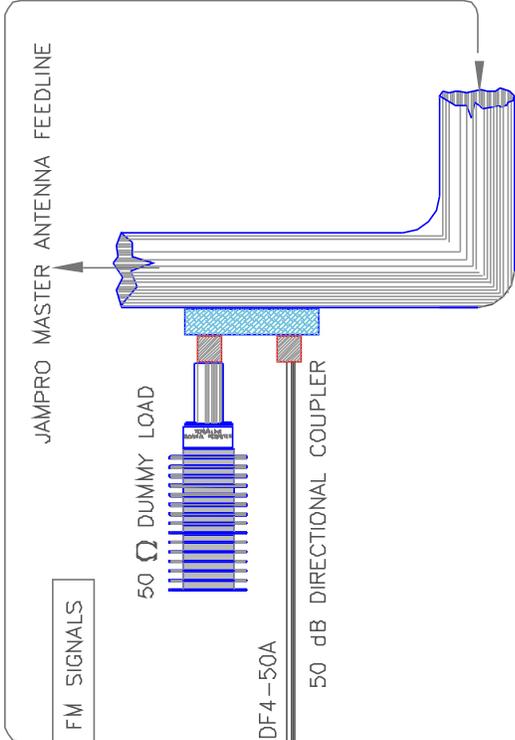
Ratelco Site

Cougar Mt. Washington

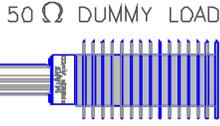
Jan 2001

KUBE	93.3MHz	100kW
KMBX-FM	95.7MHz	100kW
KPLZ-FM	101.5MHz	100kW
KCMS	105.3MHz	54kW

COMBINED FM SIGNALS



NARDA 3020A BI-DIRECTIONAL COUPLER

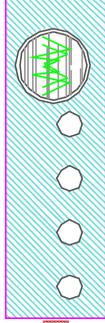


3ft LDF1-50

6ft LDF4-50A

50 dB DIRECTIONAL COUPLER

RAMSEY RSG-1000 SIGNAL GENERATOR



3ft LDF1-50

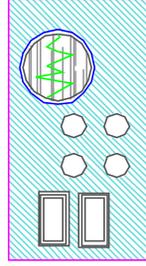
SIGNAL GENERATOR USED TO TUNE BANDPASS CAVITY

TELEWAVE TWPC 1005-1 BAND PASS CAVITY



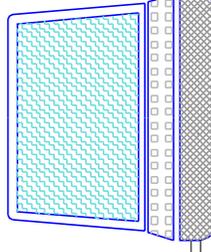
3ft LDF1-50

HP 8591E SPECTRUM ANALYZER



FLUKE 20 dB ATTENUATOR

LAPTOP COMPUTER



HATFIELD & DAWSON
CONSULTING ENGINEERS

SCHEMATIC DIAGRAM
JAMPRO-SPIRAL MASTER ANTENNA SYSTEM TEST SETUP
RATELCO SITE COUGAR MOUNTAIN, WA 1/2001

5. Transmitter Power Output Calculations

TPO	37.18 kW (15.70 dBk)
Line Loss 3-1/8" (between TX and Combiner)	-0.0253 dB
Coax Switch Loss	-0.0500 dB
Combiner Loss	-0.4900 dB
Line Loss HJ98HP-50 - 220 feet	-0.1664 dB
3 Way Splitter	-0.1000 dB
Antenna Gain	5.123 dB
Effective Radiated Power	100.0 kW (20.00 dBk)



United States of America
FEDERAL COMMUNICATIONS COMMISSION
FM BROADCAST STATION CONSTRUCTION PERMIT

Authorizing Official:

Official Mailing Address:

ACKERLEY MEDIA GROUP, INC.
C/O RUBIN, WINSTON, ET AL
1155 CONNECTICUT AVENUE, NW, SIXTH FLOOR
WASHINGTON DC 20036

Brian J. Butler
Supervisory Engineer
Audio Services Division
Mass Media Bureau

Facility ID: 48385

Grant Date: October 20, 2000

Call Sign: KMBX

The authority granted herein has no effect on the expiration date of the underlying construction permit.

Permit File Number: BMPH-20000831AIE

This Permit Modifies Permit No.: BPH-19990920AAX

Subject to the provisions of the Communications Act of 1934, as amended, subsequent acts and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions set forth in this permit, the permittee is hereby authorized to construct the radio transmitting apparatus herein described. Installation and adjustment of equipment not specifically set forth herein shall be in accordance with representations contained in the permittee's application for construction permit except for such modifications as are presently permitted, without application, by the Commission's Rules.

Commission rules which became effective on February 16, 1999, have a bearing on this construction permit. See Report & Order, Streamlining of Mass Media Applications, MM Docket No. 98-43, 13 FCC RCD 23056, Para. 77-90 (November 25, 1998); 63 Fed. Reg. 70039 (December 18, 1998). Pursuant to these rules, this construction permit will be subject to automatic forfeiture unless construction is complete and an application for license to cover is filed prior to expiration. See Section 73.3598.

Equipment and program tests shall be conducted only pursuant to Sections 73.1610 and 73.1620 of the Commission's Rules.

Name of Permittee: ACKERLEY MEDIA GROUP, INC.

Station Location: WA-SEATTLE

Frequency (MHz): 95.7

Channel: 239

Class: C

Hours of Operation: Unlimited

Transmitter: Type Accepted. See Sections 73.1660, 73.1665 and 73.1670 of the Commission's Rules.

Transmitter output power: As required to achieve authorized ERP.

Antenna type: (directional or non-directional): Non-Directional

Antenna Coordinates: North Latitude: 47 deg 32 min 40 sec

West Longitude: 122 deg 6 min 26 sec

	Horizontally Polarized Antenna	Vertically Polarized Antenna
Effective radiated power in the Horizontal Plane (kW):	100	100
Height of radiation center above ground (Meters):	70	70
Height of radiation center above mean sea level (Meters):	512	512
Height of radiation center above average terrain (Meters):	387	387

Antenna structure registration number: 1033569

Overall height of antenna structure above ground (including obstruction lighting if any) see the registration for this antenna structure.

Special operating conditions or restrictions:

- 1 THE AUTOMATIC PROGRAM TEST PROVISIONS OF 47 C.F.R. SECTION 73.1620 DO NOT APPLY IN THIS CASE. A FORMAL REQUEST FOR PROGRAM TEST AUTHORITY MUST BE FILED IN CONJUNCTION WITH FCC FORM 302-FM, APPLICATION FOR LICENSE, BEFORE PROGRAM TESTS WILL BE AUTHORIZED. This request should be submitted at least 10 days prior to the date on which program tests are desired to commence. This request must contain documentation which demonstrates compliance with the following special operating condition(s):
- 2 The permittee/licensee shall, upon completion of construction and during the equipment test period, make proper radiofrequency electromagnetic (RF) field strength measurements throughout the transmitter site area to determine if there are any areas that exceed the FCC guidelines for human exposure to RF fields. If necessary, a fence must be erected at such distances and in such a manner as to prevent the exposure of humans to RF fields in excess of the FCC Guidelines (OET Bulletin No. 65, Edition 97-01, August 1997). The fence must be a type which will preclude casual or inadvertent access, and must include warning signs at appropriate intervals which describe the nature of the hazard. Any areas within the fence found to exceed the recommended guidelines must be clearly marked with appropriate visual warning signs.
- 3 Documentation demonstrating compliance with the special operating condition(s) may be submitted in advance of the filing of FCC Form 302-FM. The Commission's staff will review it for compliance and respond by letter stating whether automatic PTA has been reinstated.

Special operating conditions or restrictions:

- 4 BEFORE PROGRAM TESTS COMMENCE, sufficient measurements shall be made to establish that the operation authorized in this construction permit is in compliance with the spurious emissions requirements of 47 C.F.R. Sections 73.317(b) through 73.317(d). All measurements must be made with all stations simultaneously utilizing the shared antenna. These measurements shall be submitted to the Commission along with the FCC Form 302-FM application for license.
- 5 FAA INTERFERENCE CONDITION:
Upon receipt of notification from the Commission that harmful interference is being caused by the operation of the permittee's/licensee's transmitter, the permittee's/licensee's shall either immediately reduce the power to the point of no interference, cease operation, or take such immediate corrective action as is necessary to eliminate the harmful interference. This condition expires after one year of interference-free operation.
- 6 ***** This is a Section 73.215 contour protection grant *****
***** as requested by this applicant *****
- 7 The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic fields in excess of FCC guidelines.

*** END OF AUTHORIZATION ***

Section III - Engineering

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

1. Channel: _____				
2. a. Effective Radiated Power: _____ kW (H) _____ kW (V)				
b. Maximum Effective Radiated Power: <input type="checkbox"/> Not applicable _____ kW (H) _____ kW (V) (Beam-Tilt Antenna ONLY)				
3. Transmitter Power Output: _____ kW				
4. Antenna Data				
<table border="1"><tr><td>Manufacturer</td><td>Model</td><td>Number of Sections</td><td>Spacing Between Sections (wavelength)</td></tr></table>	Manufacturer	Model	Number of Sections	Spacing Between Sections (wavelength)
Manufacturer	Model	Number of Sections	Spacing Between Sections (wavelength)	

NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.

CERTIFICATION

All applicants must complete this section.

- 5. **Main Studio Location.** The main studio location complies with 47 C.F.R. Section 73.1125. Yes No See Explanation in Exhibit No.
- 6. **Transmitter Power Output.** The operating transmitter power output produces the authorized effective radiated power. Yes No See Explanation in Exhibit No.

APPLICATIONS FILED TO COVER A CONSTRUCTION PERMIT.

Only applicants filing this application to cover a construction permit must complete the following section.

NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.

- 7. **Constructed Facility.** The facility was constructed as authorized in the underlying construction permit or complies with 47 C.F.R. Section 73.1690. Yes No See Explanation in Exhibit No.
 - 8. **Special Operating Conditions.** The facility was constructed in compliance with all special operating conditions, terms, and obligations described in the construction permit. Yes No See Explanation in Exhibit No.
- An exhibit may be required.** Review the underlying construction permit. Exhibit No.

PREPARER'S CERTIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.

SECTION III PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name	Relationship to Applicant (e.g., Consulting Engineer)	
Signature	Date	
Mailing Address		
City	State or Country (if foreign address)	ZIP Code
Telephone Number (include area code)	E-Mail Address (if available)	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001),
AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)),
AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

8. Statement of Engineer

This Engineering Report which is part of an application for a program test authority for the main facility for FM station KBTB at Seattle, Washington has been prepared under my direct supervision. All representations contained herein are true to the best of my knowledge. I am an experienced radio engineer whose qualifications are a matter of record with the Federal Communications Commission. I am a partner in the firm of Hatfield and Dawson Consulting Engineers and am Registered as a Professional Engineer in the States of Washington and California

Signed this 31st day of January, 2001

Benjamin F. Dawson III, P.E.