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BEFORE THE

Federal Communications Commission

In the Matter of	)	
	)	
Request for a Digital Power Increase for Terrestrial Radio Broadcasting Using the Hybrid Mode of the HD Radio System	)))	MM Docket No. 99-325

FILED/ACCEPTED
DEC - 4 2008
Federal Communications Commission
Office of the Secretary

COMMENTS OF MT. WILSON FM BROADCASTERS, INC.

Mt. Wilson FM Broadcasters, Inc., licensee of station KKGO-FM, Los Angeles, California and standard broadcast station KGIL, Beverly Hills, California (hereinafter Mt. Wilson) respectfully submits its Comments in the above-referenced proceeding.

1. In the Second Report and Order, 22 FCC Rcd 10,344, 10,346, 2007), the Commission stated

> "Through this proceeding, we seek to foster the development of a vibrant terrestrial digital radio service. . . we find it necessary to ask additional questions. . . on how to preserve free over-the-air radio broadcasting while permitting licensees to offer new services. . . ."

While Mt. Wilson endorses the concept of digital radio, it believes that the power increase should be tempered in order to avoid significant loss of existing analog service.[1] In short, the extent of the power increase initially should strike a balance between the benefits to digital radio and the loss of service to analog radio. The Mt. Wilson intention is to present a proposal consistent with and responsive to the question posed by the

[1] Station KKGO-FM operates on digital channels H1, H2 and H3.

Commission, ". . .how to preserve free over-the-air radio broadcasting while permitting licensees to offer new services."

2. Attached is an Engineering Statement prepared by Clarence Beverage, the licensee's Consulting Engineer (Appendix A). The Statement emphasizes the extent of impact on existing analog stations, the identification of and the need for additional data and suggests initial standards and conditions to be required for authorizing digital power increases pursuant to Special Temporary Authority. The Beverage Engineering Statement strikes the balance between proponents' unqualified power increase and opponents' unqualified opposition.

3. The preservation of free over-the-air broadcasting remains imperiled by satellite radio. The concept of "preservation" is neither new nor novel. In prior years, the Commission mandated that all new radio receivers had to include the expanded AM band and mandated that all new television sets had to include UHF. Pragmatically, satellite radio poses a threat to free over-the-air terrestrial radio (analog and digital). While the action of the Commission granting the merger of Sirius and XM Radio may or may not save the present ownership of satellite radio, satellite radio as an industry reasonably can be expected to survive. Free over-the-air radio (the mainstay of news, information, and entertainment for decades) comprises hundreds/thousands of small radio licensees – licensees entitled to compete with satellite on a "level playing field." To ensure fair competition, to ensure that the satellite audience has access to emergency

information[2] and to preserve free over-the-air radio, the Commission should adopt a rule requiring that HD tuners be required to be included as a part of the interoperable satellite radio receivers.[3]

Respectfully submitted

MT. WILSON FM BROADCASTERS, INC.

By: Robert B. Jacobi

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Its Attorneys

Dated: December 4, 2008

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[2] The International Association of Audio Information Services announced standards for HD radio that will enable accessibility to persons who are visually and physically handicapped. The availability of such programming (including emergency information) to the satellite audience would be a meaningful public interest benefit (see Attachment B).

[3] Should the Commission determine that such a rule is beyond the scope of the instant proceeding, the Commission should adopt a policy wherein the applicable satellite radio application form (or renewal form) is revised to include a certification to the effect that applicant certifies HD tuners are included in interoperable satellite radio receivers manufactured as of [date to be inserted] – as it did with respect to revising the broadcast renewal application forms (pursuant to policy, not a rule) to include a certification as to nondiscrimination provisions in advertising sales contracts (Report and Order, "Promoting Diversification of Ownership in the Broadcasting Services," 23 FCC Rcd 5922, 5941 (2008)).

ENGINEERING STATEMENT
IN SUPPORT OF COMMENTS BY
MOUNT WILSON FM BROADCASTERS
MM DOCKET NO. 99-325
REQUEST FOR A DIGITAL POWER INCREASE
FOR TERRESTIAL RADIO BROADCASTNG
USING THE HYBRID MODE OF THE
HD RADIO SYSTEM

DECEMBER 2008

INTRODUCTION

The June 10, 2008, request for an increase in digital operating power of FM broadcast stations from 1% to 10% of a station's authorized analog power reflects a true need believed to be shared by a good portion of the broadcast community. Experience over the last few years has shown that the 1% digital ERP level fails to provide viable in building service, offers unreliable service inside the analog primary contour of many FM stations and offers an extent of service considerably less than the analog signal. Having established the need, the question in this proceeding is whether the increase in power can be achieved without causing interference to existing analog service.

Mount Wilson FM Broadcasters, ("Mt. Wilson") believes that a HD power increase is necessary if listeners, and the receiver industry, are to fully adopt the technology. However, the increase should not come at the expense of significant loss of existing analog service. **Mt. Wilson** submits the following comments concerning possible harmful interference to analog operation and an interim method which may be employed to grant limited digital power increases.

DETERMINING HD TO ANALOG INTERFERENCE

A bedrock starting point in terms of understanding the potential for HD to analog interference is to realize that the relationship of one station to another in uniquely described by the following:

Channel Relationship	Co-channel
	1st Adjacent Channel
	2nd and 3rd Adjacent Channel

Reserved Band Operation	Stations in the 88.1 – 91.9 MHz band are allocated on a contour separation basis and thus may be more densely packed and subject to greater interference from HD operation.
Non Reserved Band Operation	Stations in the 92.1 – 107.9 MHz band can be: 1. Contour separated under *73.215* creating the potential for HD interference. 2. Distance separated under *73.207*. 3. Grandfathered short spacing under *73.213* creating the greatest potential for HD interference.
Terrain Considerations	The potential for interference is greatly impacted by the nature of the terrain between two stations.

Given the wide range of variables listed above it is believed that a uniform power increase approach is impractical and would lead to some stations being unfairly impacted by a meaningful loss of existing analog service. Studies by NPR concluded "Interference would affect some stations severely in portions of their analog mobile service area. 41% could lose one third or more of their covered population and 18% could lose more than half of their population." Results such as these support the conclusion that a "one size fits all" approach is not practical.

At this point in time it is believed that insufficient data is available upon which exact standards for HD power increase implementation can be based. The existing record must be supplemented with additional information regarding alternative technologies including:

- Distributed Transmission Systems, HD Booster, benefit and impact.
- Data from receiver manufacturers including possible technology innovations.
- Use of unequal digital side bands to control interference.
- Use of directional antennas to control HD interference.

- Transmitter manufacturer innovations directed to increased purity of emissions and reduction of spectrum regrowth.
- Further iBiguity design innovations to lessen digital to analog impact.
- FCC flexibility including mutual interference agreements and possible reduction of analog power without fear of a loss of protected service area.
- Consideration of the use of other spectrum space and HD only transmission to avoid inherent incompatibilities that cannot be solved without attendant loss of service.

Mt. Wilson believes that until such future time as the record is sufficiently complete and standards can be established that increased digital power should be available under Special Temporary Authority ("STA"). This approval will provide much needed empirical data upon which future decisions can be made. As in the roll out of the digital television service a small percentage of interference should be allowed, perhaps 0.5% of existing analog population within the primary contour, to facilitate the further growth and development of HD Radio.

The following criteria are suggested as a basis for grant of increased HD power under STA:

1. Identify any operating stations which do not meet *73.207* contour separations to the proposed facility or are located within 110% of the *73.207* distance requirement.

2. Submit an allocation study depicting:

    A. The protected service contour of each potentially affected station described in 1 above.

    B. Plot F(50:10) interference contour for the proposed facility based on 1% HD power and the proposed HD power.

    C. Determine population in any areas of prohibited contour overlap.

    D. List population in contour overlap area as percent of total population in affected stations primary contour.

3. For any stations which would be impacted greater than 0.5% of their population submit supplemental showing such as Longley Rice, or terrain profiles with calculated dB path loss attenuation, to demonstrate that the affected station has no signal in the area of calculated overlap or the proposed facility signal level is below that which would cause prohibited overlap.

Recognizing that this is an interim approach, and does not take into account final D/U ratios to be developed in this process, **Mt. Wilson** recommends that all STA grants be conditioned on the following:

1. All potentially affected stations (those identified by allocation process above)to be notified prior to commencement of increased power HD operation, or first time HD operation at a digital power in excess of 1% of analog ERP. Notification to include copy of emission mask measurement report.

2. Agreement to:

   A. Implement increased HD power in steps. Operation at an HD ERP of 2.5% of analog power for a period of one month is proposed. An increase in HD ERP to 5% of analog power for the next (second) month would follow provided that no complaints of interference occurred during the first month of increased HD power operation. An increase in HD ERP to 10% of analog power for the next (third) month would follow provided that no complaints of interference occurred during the second month of increased HD power operation

   B. Reduce HD power to one half of operating HD power established in A. above upon proper written notice from an affected station that interference is occurring in a populated area encompassing approximately 0.5% of the authorized population. Such notice to include copies of listener complaints and/or a fully documented report by a qualified engineer demonstrating the presence of interference.

   C. Agree, in case of dispute, to refer the case to the FCC Media Bureau for resolution.

The foregoing was prepared on behalf of **Mount Wilson FM Broadcasters** by Clarence M Beverage of Communications Technologies, Inc. Marlton, New Jersey whose qualifications are a matter of record with the Federal Communications Commission. The undersigned certifies, under penalty of perjury, that the statements herein are true and correct of his own knowledge, except such statements made on information and belief, and as to these statements he believes them to be true and correct.

By /S/ Clarence M. Beverage

for Communications Technologies, Inc.
Marlton, New Jersey
December 3, 2008

APPENDIX 1

KKGO SAMPLE HD CONTOUR ANALYSIS

COMMENTS IN MM DOCKET No. 99-325

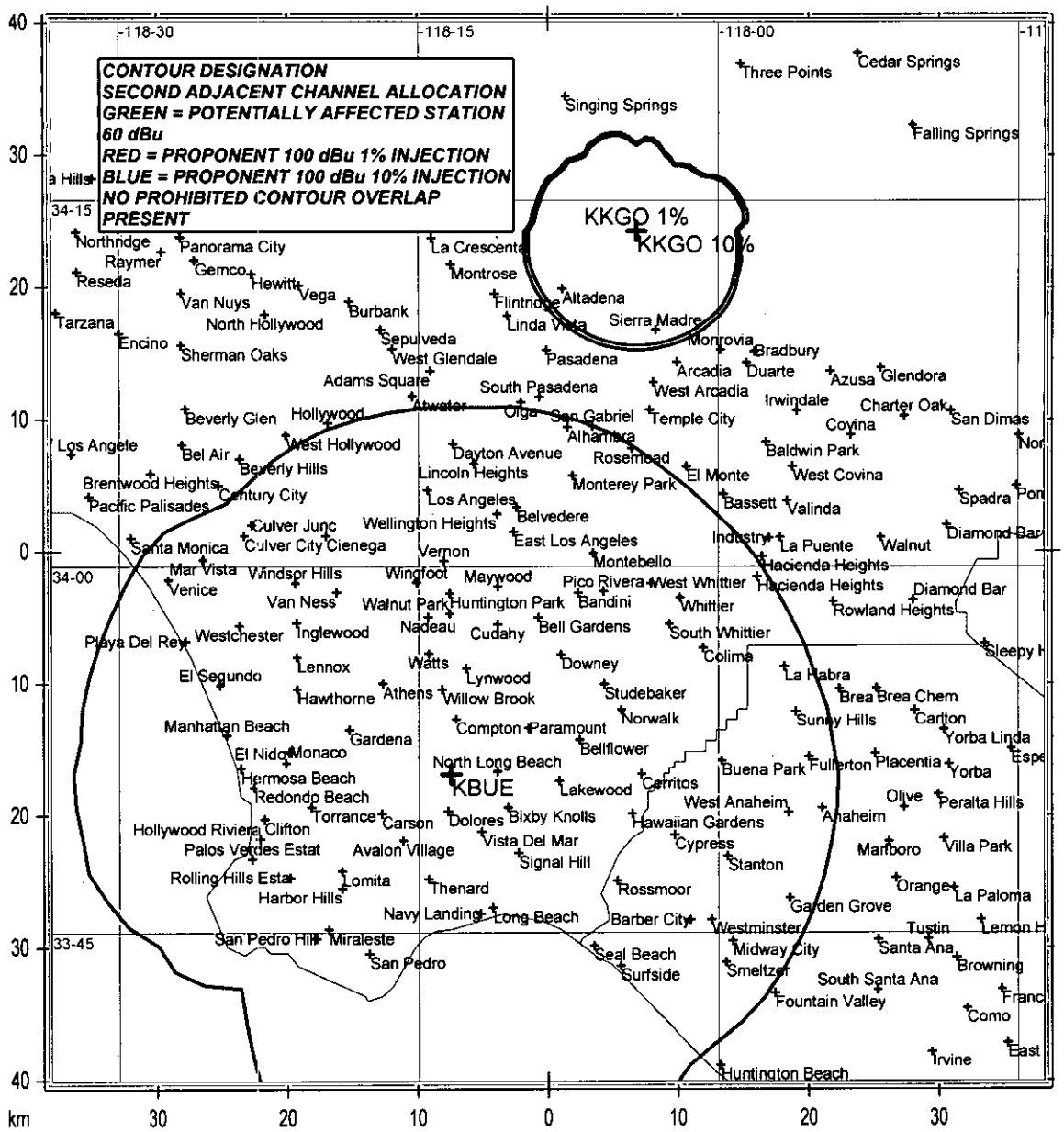
An allocation study, using 73.207 distance separations, may be found below.

Search of channel 286 (105.1 MHz Class B) at 34-13-45.0 N, 118-04-04.0 W KKGO Transmitter site.

CALL	CITY	ST	CHN	CL	DIST	SEP	BRNG	CLEARANCE	Figure
KBUE	LONG BEACH	CA	288	A	43.60	69.00	199.2	-25.4	1
KRSX-FM	YERMO	CA	287	B1	141.26	145.00	52.5	-3.7	2
KLOA-FM	RIDGECREST	CA	285	B1	142.58	145.00	13.5	-2.4	3
KGIC-LP	CORONA	CA	288	LP100	67.26	67.00	128.6	0.3	4
KBFP-FM	DELANO	CA	287	B	169.09	169.00	327.9	0.1	5
KVVS	ROSAMOND	CA	288	A	69.44	69.00	353.3	0.4	6
KIOZ	SAN DIEGO	CA	287	B	171.94	169.00	153.6	2.9	7
KCAQ	OXNARD	CA	284	B	88.70	74.00	277.6	14.7	8
KIDI-FM	LOMPOC	CA	286	B1	225.75	211.00	285.3	14.8	
KBUA	SAN FERNANDO	CA	232	A	37.67	15.00	279.5	22.7	
KXRS	HEMET	CA	288	A	102.99	69.00	102.3	34.0	
KDES-FM	REDLANDS	CA	284	A	103.61	69.00	101.6	34.6	
KEBN	GARDEN GROVE	CA	232	A	52.30	15.00	162.0	37.3	

Map Figures 1-8 attached depict KKGO interfering contours based on 1% injection with a combined analog and digital ERP of 18,180 watts and 10% injection with a combined analog and digital ERP of 19,800 watts. Potentially affected stations are plotted based on their licensed facilities. Contour values are depicted on each map Figure.

KKGO 105.1 MHz CH 286B LOS ANGELES, CALIFORNIA



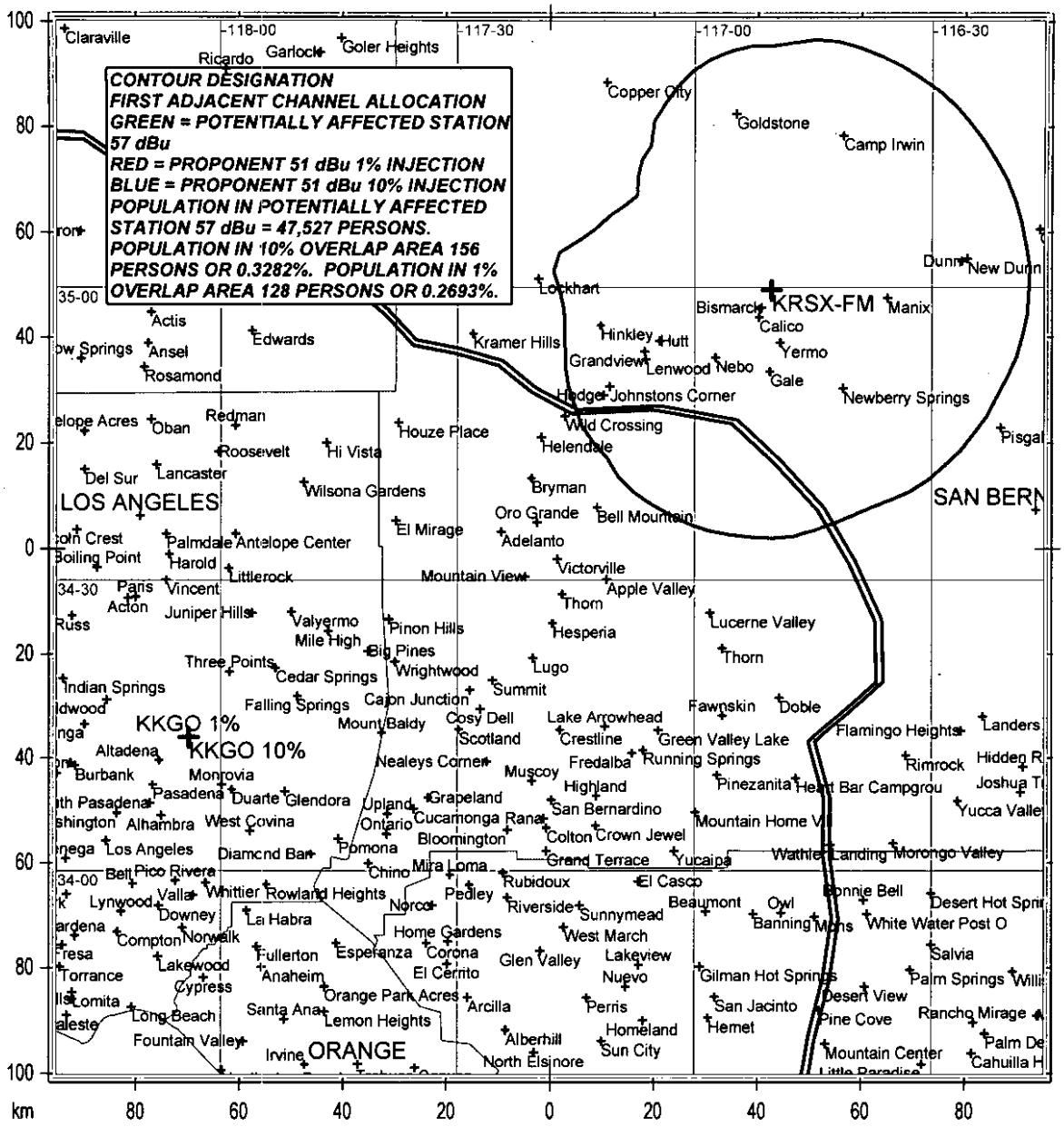
Communications Technologies, Inc. Marlton, New Jersey

County Borders Lat/Lon Grid

Map Scale: 1:500000 1 cm = 5.00 km V|H Size: 80.15 x 76.23 km

FIGURE 1

KKGO 105.1 MHz CH 286B LOS ANGELES, CALIFORNIA



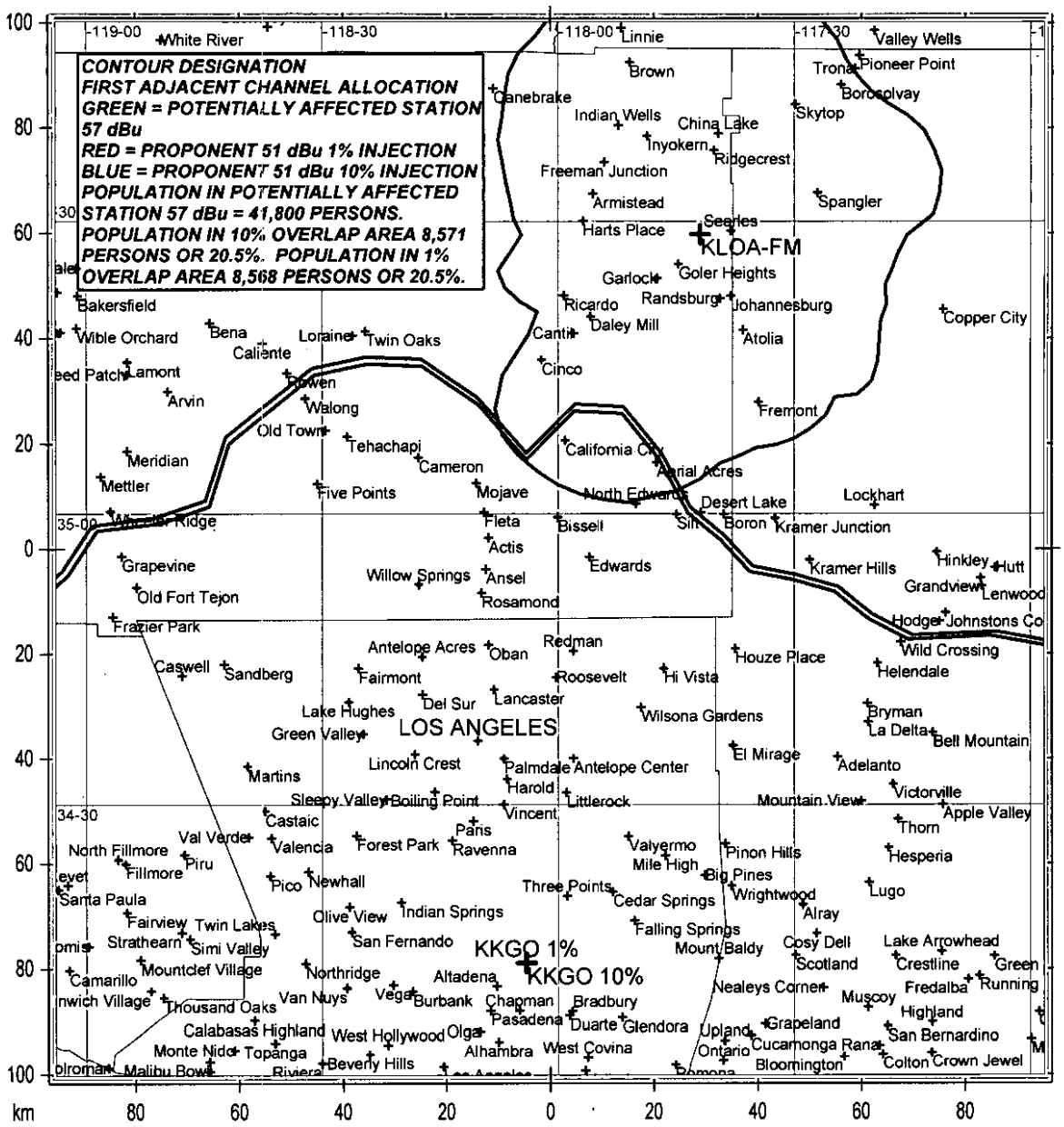
Communications Technologies, Inc. Marlton, New Jersey

County Borders Lat/Lon Grid

Map Scale: 1:1250000 1 cm = 12.50 km V|H Size: 200.38 x 190.59 km

FIGURE 2

KKGO 105.1 MHz CH 286B LOS ANGELES, CALIFORNIA



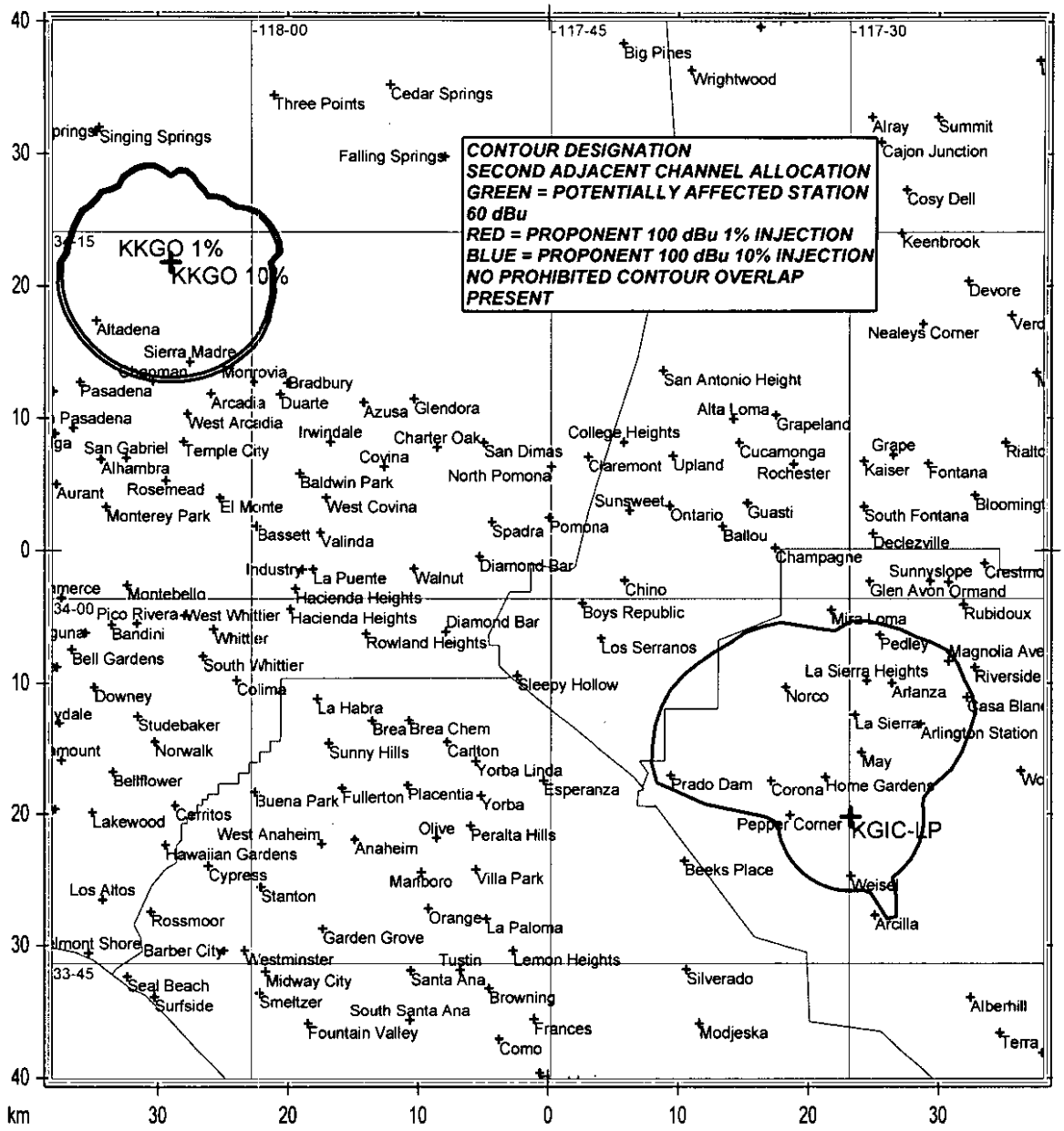
Communications Technologies, Inc. Marlton, New Jersey

County Borders Lat/Lon Grid

Map Scale: 1:1250000 1 cm = 12.50 km V|H Size: 200.38 x 190.59 km

FIGURE 3

KKGO 105.1 MHz CH 286B LOS ANGELES, CALIFORNIA



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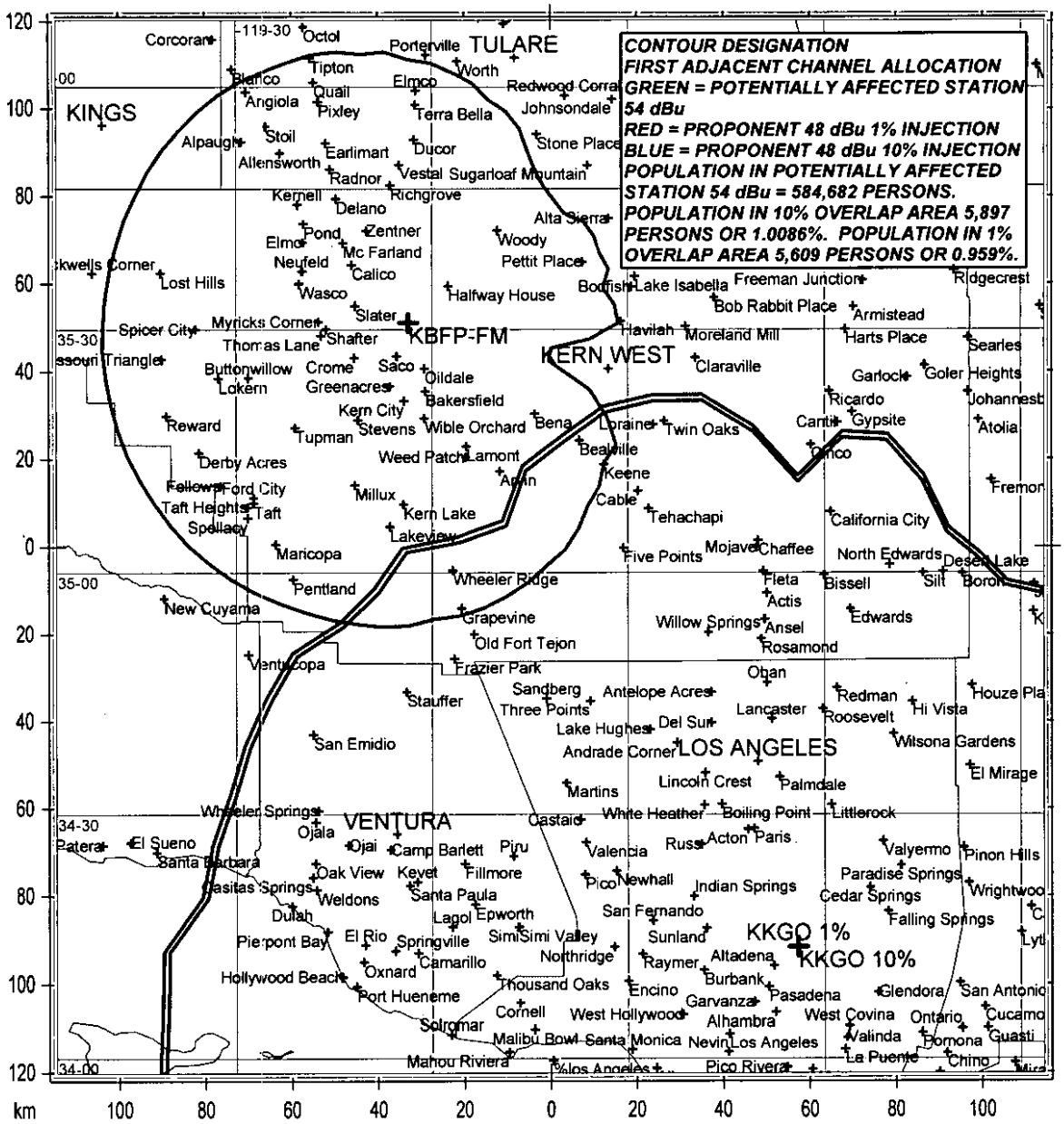
County Borders Lat/Lon Grid

Map Scale: 1:500000 1 cm = 5.00 km V|H Size: 80.15 x 76.23 km

FIGURE 4

KKGO 105.1 MHz CH 286B LOS ANGELES, CALIFORNIA



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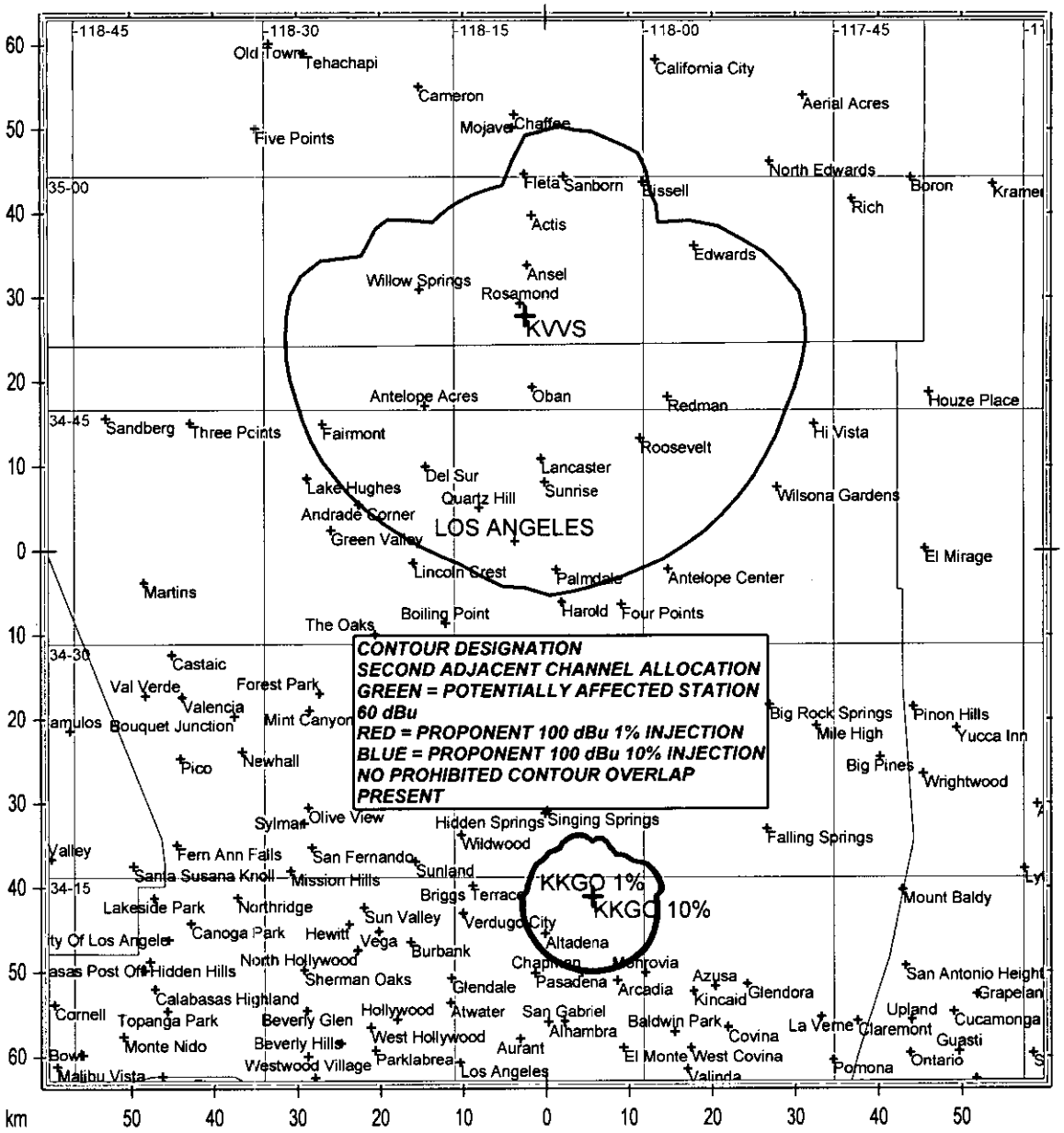
KKGO 105.1 MHz CH 286B LOS ANGELES, CALIFORNIA



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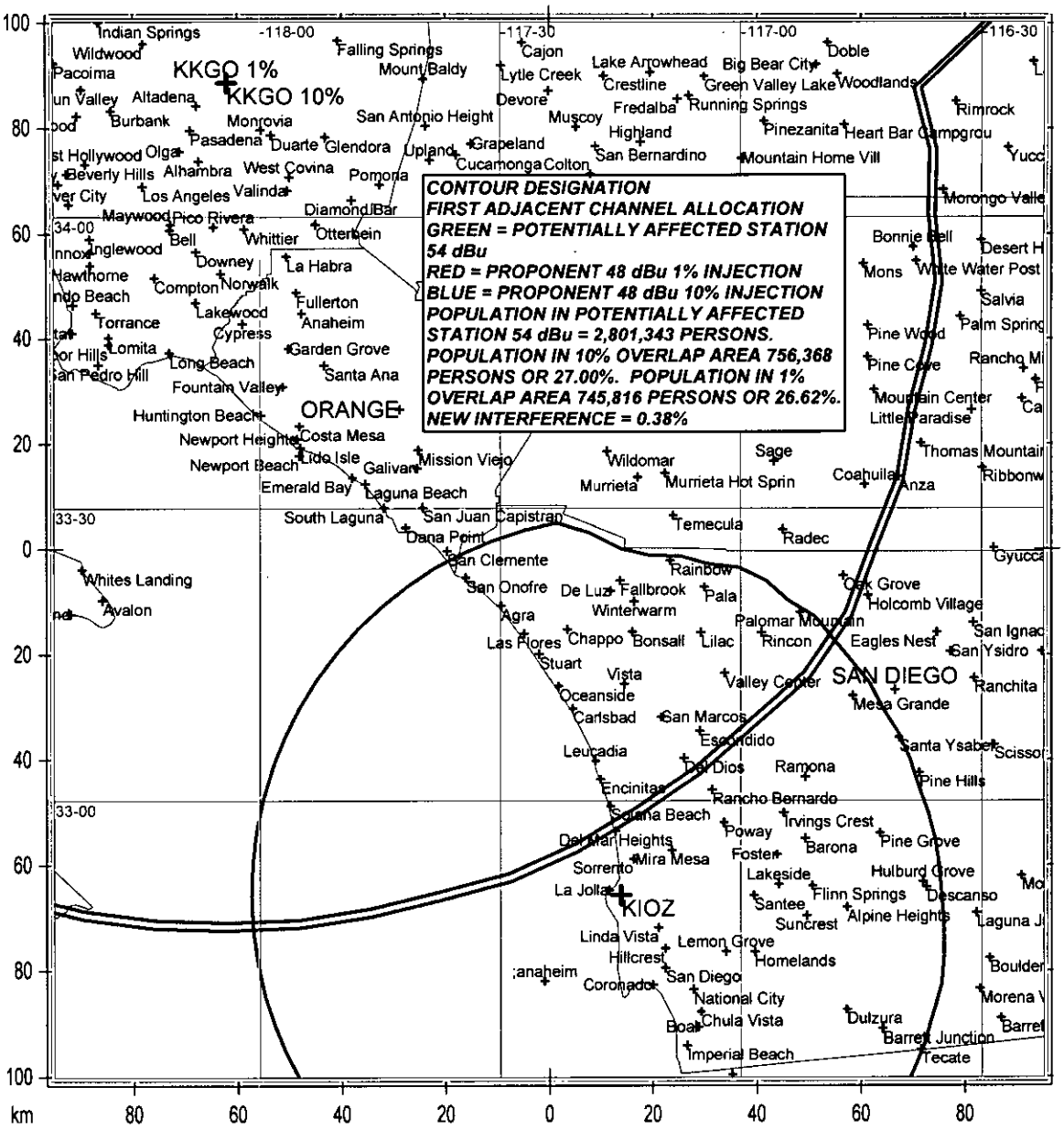
Map Scale: 1:785346 1 cm = 7.85 km V|H Size: 125.89 x 119.74 km

FIGURE 6

KKGO 105.1 MHz CH 286B LOS ANGELES, CALIFORNIA



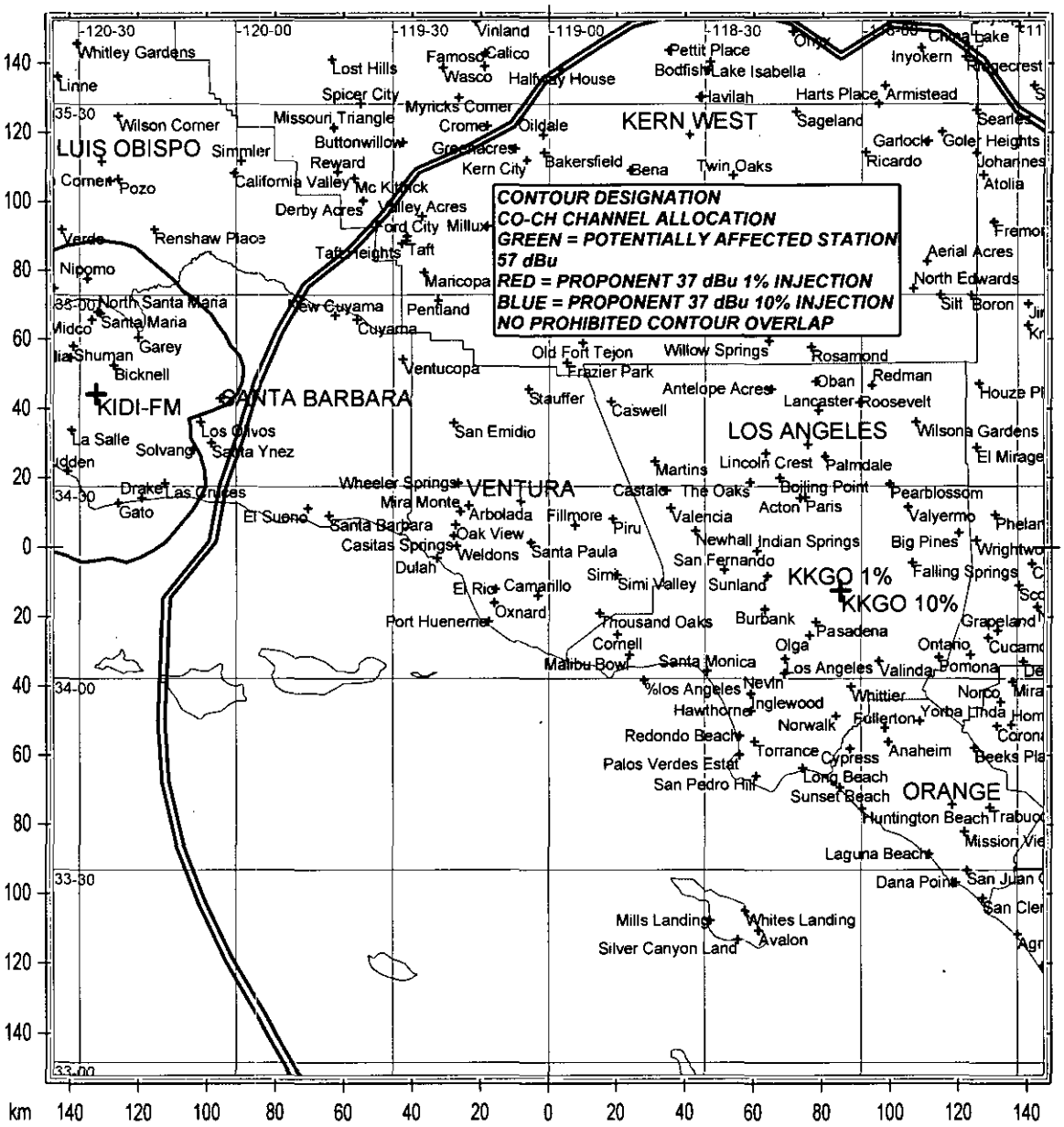
Communications Technologies, Inc. Marlton, New Jersey

County Borders Lat/Lon Grid

Map Scale: 1:1250000 1 cm = 12.50 km V|H Size: 200.38 x 190.59 km

FIGURE 7

KKGO 105.1 MHz CH 286B LOS ANGELES, CALIFORNIA



Communications Technologies, Inc. Marlton, New Jersey

County Borders Lat/Lon Grid

Map Scale: 1:1899631 1 cm = 19.00 km V|H Size: 304.51 x 289.64 km

FIGURE 8

APPENDIX B

Accessibility standards for HD radios

20 November, 2008 09:48:00

The International Association of Audio Information Services (IAAIS) announces standards for HD radios that will be accessible to people who are visually and physically handicapped. The implementation of these standards will allow an untapped group of potential listeners to use HD radio broadcasts.

These universal design standards are the first of their kind for radios and other electronic devices. "Our committee searched the known consumer electronics industry databases and the world wide web. We found nothing that has codified what manufacturers need to incorporate to make the radios accessible for people who are visually impaired or blind," said IAAIS HD Taskforce chairperson, David Noble.

In recent years, radios and other electronic devices have deployed increasingly advanced features that prevented senior citizens and people who are visually or physically from using them.

Because the HD radio systems are new, there are relatively few HD radios in homes. IAAIS wishes to generate early adoption of the standards by many manufacturers so that many different units will be accessible and simple to use for all radio users.

Once units are accessible, the IAAIS will promote the purchase and use of accessible HD radios to provide reading services for blind or otherwise print-disabled persons. Manufacturers of radio or other consumer electronic devices must utilize the standards to create products people who are visually and physically handicapped can buy and use independently. IAAIS will not recommend or endorse any product that fails to meet the newly published standards.

The IAAIS breaks down radio functions and design into Required, Desirable, and Unacceptable in the categories of Controls, Displays and Feedback, Documentation, Other Considerations, Operation/ Functions, and Infrared Remotes.

The standards call for speech feedback, tactile controls, and larger buttons and at least 18-point print fonts, among other requirements. Specifically unacceptable functions include touch screens, soft keys, and hard to find recessed buttons.

Founded in 1977, the IAAIS is a non-profit association of independently operated broadcast entities that provide reading services in more than 100 radio markets throughout the US, Canada and abroad.

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