

May 3, 1995

Introduced By: PETE VON REICHBAUER

JL:lm

Proposed No.: 95 - 402

ORDINANCE NO. **11911**

AN ORDINANCE authorizing the execution of a ten year lease of the Crista/KCMS antenna and transmitter site in Council District No. 1 to support the Regional Emergency Radio Communications System.

PREAMBLE:

In accordance with provisions of K.C.C. 4.04.040, the King County council may adopt an ordinance permitting the county to enter into contracts requiring the payment of funds from the appropriations of subsequent fiscal years.

BE IT ORDAINED BY THE COUNCIL OF KING COUNTY:

SECTION 1. The King County executive is hereby authorized to execute a ten year lease agreement (in substantially the form attached), with options to extend for two successive ten year terms to secure use of the Crista/KCMS antenna and transmitter site in north King County, Council District No. 1, to support King County's portion of the Regional Emergency Radio Communications System. The Regional Emergency Radio Communications System was authorized by Ordinance 10464 and by the voters of King County on September 15, 1992. The rent for the site is \$1,249 per month with an annual adjustment based on the Revised Consumer Price Index for the Seattle-Everett area beginning January 1, 1996.

INTRODUCED AND READ for the first time this 26th day of June, 1995.

PASSED by a vote of 11 to 0 this 31st day of July, 1995.

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

Kent Pullen
Chair

ATTEST:

Gerald A. Peterson
Clerk of the Council

APPROVED this 11 day of August, 1995.

Charles N. Seal, Deputy
for King County Executive

Attachments:

A. Lease Agreement

CRISTA MINISTRIES
ANTENNA SITE LEASE AGREEMENT

THIS LEASE, made and entered into this _____ day of _____, 19____, by and between CRISTA Ministries, a Washington corporation, Lessor, hereinafter called CRISTA and KING COUNTY, a political subdivision of the State of Washington, hereinafter called LESSEE.

W I T N E S S E T H:

In consideration of the covenants and agreements herein contained, CRISTA does hereby lease to LESSEE for the term hereunder specified, and LESSEE does hereby lease from CRISTA, certain specified portions of a tower and space for an equipment building situated on property of CRISTA, located at 19303 Fremont Avenue North, Seattle, King County, Washington.

1. PURPOSE/USE.

LESSEE'S occupancy of the property shall be limited to the construction, maintenance and operation of 2-way voice and data communications systems, and integrating microwave links to serve governmental radio users providing public safety and general governmental services.

A. Existing Facility. LESSEE shall install six (6) antennas on the existing CRISTA/KCMS antenna tower as specified in Attachment "C", Technical Data Sheet and Attachment "C-1", drawing of TENANT'S antenna locations on CRISTA's antenna tower.

B. New Facility. LESSEE shall construct an equipment facility adjacent to CRISTA's existing antenna tower (see Attachment "D").

2. TERM.

The term of this lease shall be ten (10) years, commencing upon the signing of this agreement or the commencement of LESSEE'S actual operation, whichever event shall have first occurred.

3. RENTAL.

Upon the commencement of this Lease, LESSEE shall pay as rental hereunder the sum of \$1,249.00 per month the first day of each month. Any partial month resulting from the rental not commencing on the first day of a month shall be prorated for the balance of that month. The rental payments shall be due the first day of each month thereafter. Commencing January, 1996, the monthly rental shall increase to the approximate sum of \$1,320.00, the exact amount to be determined based on the following formula: that amount which is the equivalent of the rental for the most recent period (at commencement that amount being \$1,249.00 per month), adjusted by the same percentage of increase as the Revised Consumer Price Index for All Urban Consumers, Seattle-Everett Area, as published by the United States Department of Labor, Bureau of Labor Statistics, the base date being September, 1993. If the cited Index is discontinued or revised during the term of this Lease, or any renewal thereof, such other governmental index or computation shall be used in order to obtain substantially the same result as would be obtained if the Index had not been discontinued or revised. During the balance of the initial term and any extension thereof, the rental shall be adjusted on an annual basis, commencing effective January 1, 1997 and January 1 of each succeeding calendar year thereafter. The base date for each

adjustment shall be the September preceding the adjustment date. In no event shall the rental for any succeeding year be less than the rental of the preceding year. (See Attachment "E" for Lease Fees)

4. RENEWAL.

LESSEE shall have the right to renew this lease for two (2) successive, ten (10) year terms, subject to rental and expense increases as set forth in the preceding paragraph. The option to renew shall be deemed to have been exercised by LESSEE unless LESSEE shall have provided written notice to the contrary to CRISTA in the manner provided in paragraph 25 below at least three calendar months prior to the end of the term hereof or any renewal.

5. REMEDIES UPON DEFAULT OF RENT.

In the event of any failure by LESSEE to pay the rents in full and strictly in accordance with, and at the time required by this lease, then at the option of CRISTA by notice, given in the form as required below, this lease and all of LESSEE'S rights thereunder shall be forthwith terminated and CRISTA may retake possession of the leased premises and property, making the property of LESSEE available to it after a reasonable time, provided all rental to the termination of the lease has been paid in full and all other obligations of LESSEE are satisfied. Provided, however, that no such action to terminate shall take place prior to the 10th day of any month for which rent has not been paid. Without waiving the right to take such action as shall be in conformance with the law to terminate

the lease, any payment of rent subsequent to the 10th day of any calendar month shall obligate LESSEE for interest thereon at the rate of 18 percent per annum. Until such obligations are fully satisfied, CRISTA shall have a lien upon LESSEE'S equipment for such obligations of LESSEE. The exercise of such lien shall not constitute an election of remedies by CRISTA and CRISTA shall have any other rights or remedies as may be provided by law.

6. DEFAULT AND REMEDIES UPON DEFAULT - IN GENERAL.

CRISTA shall have the right to immediately terminate this lease in the event of a default in the payment of rents, as limited in the preceding paragraph, or any attempted transfer or assignment of this lease except as provided herein. Otherwise, if LESSEE shall fail or neglect to keep and observe any of the covenants, terms and conditions herein contained, then CRISTA may, anytime after giving LESSEE thirty (30) days written notice specifying any other default or defaults and referring to the part of the lease relied on by CRISTA, CRISTA may terminate this lease should LESSEE not correct such default or defaults or, if it be a default which may not be cured within 30 days, the LESSEE has not proceeded with reasonable diligence and in good faith to cure such default or defaults. Upon termination of the lease CRISTA may enter into or upon the said premises or any part thereof, repossess the same, and expel LESSEE and those claiming under it and remove its or their effects, without being taken or deemed guilty in any manner of trespass, and without prejudice to any other remedies which might otherwise be

available at law or in equity for collection of arrears of rent or other proceeding for breach of covenant or agreement.

7. INSTALLATION, USE AND REMOVAL OF EQUIPMENT.

Installation of equipment or material of any type on the leased premises shall be done by LESSEE under the supervision, and with the prior approval of CRISTA. CRISTA may forbid installation of any material or modifications of any type to said premises if, in CRISTA's sole judgment, reasonably exercised, they shall damage the property or interfere with the rights of CRISTA or any other lessee. All expenses of installation of the LESSEE'S equipment shall be at the sole cost and expense of LESSEE. At the expiration of the Lease, LESSEE agrees to repair any damage which may be caused by the removal of LESSEE'S equipment from the said premises. It is expressly understood that LESSOR shall not be responsible for the supply of electrical power to LESSEE, AND CRISTA shall not be liable for any interruption in the supply of such electrical power. It is understood CRISTA's antenna site is a community transmitter site and that there will be other equipment on the said site using other antennas on this or other towers. To insure optimum system performance for all lessees and others, and to minimize intermodulation interference, and other technical problems involving other systems, Lessee agrees to maintain its equipment in accordance with all applicable rules, regulations, manufacturer's recommendations and specifications and to do such other acts and things, including without limitations, repairing and replacing defective parts, units and assemblies

and adding accessories as may be necessary from time to time to preclude and prevent any interference with other systems. In the event CRISTA reasonably determines that there is any such interference, it will forthwith notify Lessee who will immediately take steps to terminate the interference. For safer working conditions for personnel, CRISTA may request LESSEE to reduce transmitter power during periods of inspection, repair, or maintenance of its towers, provided CRISTA has provided reasonable notice that such work will be done and has scheduled such work at reasonable times that will have minimal impact on LESSEE's Public Safety radio users. LESSEE shall not replace any of its equipment except with identical equipment, without CRISTA'S prior consent which shall be given unless CRISTA reasonably believes that different equipment would cause interference with other systems.

8. R F ENERGY LEVEL REGULATION.

The entire King County and Snohomish County areas, including CRISTA'S Broadcast facilities, is subject to Radio Frequency Energy Level regulation by King County and Snohomish County and other governmental authorities. Such authorities may require various permits, certificates, licenses, measurements, engineering studies, and other information.

Further, any or all transmitters may be required to reduce power to make other adjustments in order to meet present or future energy level standards established by such authorities. Any such compliance shall be the responsibility of Lessee and shall be timely performed at Lessee's

sole expense. Lessee shall bear its pro rata share (as reasonably determined by CRISTA) of any reduction in the overall site outputs.

9. RELOCATION.

CRISTA may, at its expense and from time to time, relocate its equipment and/or substitute other equipment and/or direct the LESSEE to relocate LESSEE's equipment, provided: (1) the same is deemed as reasonably necessary by CRISTA to maintain the integrity of other communication systems; and (2) it is accomplished at a time that will not unreasonably affect Lessee's use of its system. Any work done by CRISTA or the LESSEE pursuant to this paragraph shall be accomplished in a workman-like manner.

10. MAINTENANCE.

Maintenance and repair of Lessee's equipment shall be performed by Lessee in accordance with Attachment "A."

11. INTERFERENCE BY LESSEE.

All expense of correcting pattern distortions, intermodulation and other interference to existing broadcasting facilities operated by CRISTA on this site caused by installation of LESSEE'S equipment shall be paid for by LESSEE. Any pattern distortions, intermodulation or other interference shall be corrected immediately by LESSEE and in the event such corrections cannot be made immediately, LESSEE shall terminate its operation until such corrections are made. LESSEE further agrees

to hold CRISTA harmless from any claim made by any other lessees or third persons affected or damaged by such pattern distortions, intermodulation or other interference.

12. INTERFERENCE WITH LESSEE.

LESSEE shall be protected from pattern distortions, intermodulation and other interference by each broadcasting facility leasing space on this site subsequent to LESSEE, provided, however, that LESSEE shall be responsible for keeping its equipment to good, modern engineering standards. CRISTA makes no guarantees against pattern distortion, intermodulation or any other interference by other existing lessees. Although it is understood that CRISTA shall not be responsible for any interference to LESSEE from existing equipment located on CRISTA's premises, CRISTA will cooperate in the solution of such problems, to the extent reasonable, but all expenses necessary to resolve such interference shall be borne by LESSEE alone (subject to the responsibility of some other lessee or lessees to LESSEE).

13. ASSIGNMENT.

LESSEE agrees it will not assign this lease or sublet any portion of the leased premises, without the prior written consent of CRISTA, which consent, in any event, shall require the assignee or sublessee to comply with the terms of this lease and any other terms deemed reasonable due to intervening circumstances or conditions unique to the proposed assignee or sublessee. Otherwise, the consent of Lessor shall not

unreasonably be withheld. CRISTA may assign its interest herein, but any such assignment shall be subject to LESSEE's rights and interest herein.

14. LESSEE'S COVENANTS.

LESSEE does hereby covenant and agree to and with CRISTA as follows:

- a. Not to engage in any business on the leased premises, except as set forth in the purpose statement, page 1, Paragraph 1.
- b. Lessee agrees that the use of the Broadcast Tower, any equipment or structures will not be used for any illegal purposes or for any purpose contrary to the Mission Statement and programs of CRISTA Ministries. CRISTA Ministries reserves the right at any time during the lease period to prohibit and deny the use of the tower, related equipment and structures, if in CRISTA's opinion, use by lessee is not in conformance with the Mission and programs of CRISTA Ministries.
- c. To make no unlawful, improper or offensive use of the said premises, or any part thereof, and to comply with all the laws, rules and regulations of federal, state, county, city or other governmental subdivision which may have rules, regulations, ordinances, statutes or law pertaining to the conduct of LESSEE'S business.

- d. Not to commit or suffer any waste upon said premises;
- e. Not to make any changes in or additions or alterations to the said premises without the prior written consent of CRISTA. All equipment presently installed or in use and any minor alterations as of the date of lease shall be deemed approved for purposes of this paragraph;
- f. Not to permit any liens of any kind to attach to the said premises or LESSEE'S equipment and fixtures, except as are subordinate to the interest of CRISTA and subject to CRISTA's rights and remedies under this lease.
- g. At the end of any term, or upon any sooner termination of this lease, to quit and deliver up the premises to CRISTA peaceably and quietly, and in as good order and condition, excepting reasonable use and wear thereof, as the same now are or may hereafter be put into during the term of this lease.

15. CRISTA'S COVENANTS.

CRISTA does hereby covenant to maintain the real property, improvements and personal property, including towers in a safe and orderly manner. CRISTA represents and warrants that the tower it owns, leases, and subleases complies with all laws and regulations applicable to such tower with respect to its present use, including but not limited to, Federal Aviation Administration and FCC tower lighting, maintenance and marking regulations. CRISTA assumes any and all responsibility for

ensuring continued compliance with such laws and regulations during the Lease Term, including and renewals thereof, provided, however, that any noncompliance is not caused by intentional or negligent act(s) of Lessee.

16. LIABILITY FOR INJURY TO LESSEE OR THIRD PARTY.

CRISTA shall not be liable for any accident or injury to property or persons occurring in or about the said leased premises which is caused by or arises out of any negligence, breach of contract, or other use of the premises, on the part of LESSEE or its agents, employees or other persons on or about the property at the request or by virtue of authorization by LESSEE and LESSEE shall hold CRISTA harmless therefrom and defend CRISTA's interest against any claim so arising.

17. LIABILITY FOR DAMAGE TO PROPERTY.

CRISTA shall not be liable for any damage to the equipment or property of LESSEE resulting from fire or collapse of the said leased premises or any portion thereof, or by reason of any electrical apparatus in or about the said leased premises, or from any other cause except those arising from or as a cause of the negligent acts or omissions of CRISTA, its agents or employees.

18. DESTRUCTION AND RECONSTRUCTION.

In the event the demised premises are destroyed or damaged by fire or other casualty or peril, to such an extent as to render the premises untenable, or practically so, in the sole judgment of CRISTA, then

CRISTA may, at its option, cancel this lease after giving LESSEE thirty (30) days written notice of CRISTA'S intent. Whether the premises are wholly untenable or not, CRISTA may proceed to immediately rebuild and restore the premises. In that event, CRISTA shall, in writing, notify LESSEE of its intention to do so within thirty (30) days after such destruction or damage, either partial or whole, and during such period of rebuilding and restoration the rent shall be abated in such proportion as LESSEE'S use of the property is diminished. In the event of the election of CRISTA to terminate, then in that event all rights and liabilities with respect to the unexpired portion of the term shall thereupon cease and any unearned rent shall be refunded to LESSEE within 30 days of such notice. Thereupon the rights, duties and obligations of the parties as otherwise set forth herein with regard to termination shall be in effect.

19. EMINENT DOMAIN.

In the event the premises of which the leased premises are a part is taken by a public agency under the law of eminent domain, this lease shall thereupon terminate. In event of any such taking or private purchase by a public agency in lieu thereof, CRISTA and LESSEE shall each be entitled to receive and retain such separate awards and/or portion of lump sum awards as may be allocated to their respective interests in any eminent domain proceedings. CRISTA shall provide LESSEE with copies of any notices, correspondence or legal proceedings regarding any eminent domain action, promptly upon CRISTA'S receipt thereof and

otherwise shall keep LESSEE apprised of any such proceedings or contemplated proceedings.

20. IMPROVEMENTS BY LESSEE.

LESSEE shall not be entitled to any compensation for any improvements made by it to the said leased premises or for any other reason arising out of the existing lease, unless otherwise provided for in this agreement.

21. HOLDING OVER.

Any holding over by LESSEE after the expiration of the term of this lease or any extension thereof with the approval of CRISTA shall be as a tenant from month to month only, and not otherwise unless otherwise negotiated.

22. SIGNS.

LESSEE shall not place any signs upon the said premises or any part thereof, except as required by Law. This provision shall not preclude LESSEE from maintaining logos or other identifying marks or writings on its equipment.

23. NON-EXCLUSIVITY.

Except as to the specific location of LESSEE'S equipment, LESSEE'S use of the premises is non-exclusive. Provided, however, that LESSEE shall have such rights to ingress and egress over and across the property and any improvements as shall be appropriate to the purpose of this lease.

24. JURISDICTION AND VENUE.

Jurisdiction of any action brought under this lease shall be in the Superior Court in the State of Washington and the procedural and substantive law of the State of Washington shall apply to any such action.

25. NOTICES.

Notices required to be in writing shall be sufficient if addressed to the respective parties at the office of the registered agent or other appointed representative of the party, by certified mail, return receipt requested.

The respective addresses of the parties are as follows:

CRISTA: CRISTA Ministries
ATTN: Vice President, Finance
19303 Fremont Avenue North
Seattle, WA 98133

LESSEE: Regional 800 MHz Radio Project
Department of Public Works
400 Yesler Way, Room 700
Seattle, WA 98104-0237

Property Services Division
Attn: Leasing Section
500A King County Administration Building
500 Fourth Avenue
Seattle, WA 98104

or such other address as may be subsequently provided by either party to the other. Notices shall be deemed to have been given when deposited with the United States Post Office for delivery.

26. INSURANCE.

LESSEE shall, during the term hereof, at its own expense, maintain, keep in effect, furnish and deliver to CRISTA liability insurance policies

in such form and with an insurer satisfactory to CRISTA insuring both CRISTA and LESSEE against all liability for damages to the person or property on or about the said leased premises which may arise by reason of the installation and maintenance of LESSEE'S equipment and the use of the premises by LESSEE. The amount of said liability insurance shall not be less than \$1,000,000.00 for injury to one person, \$1,000,000.00 for injuries arising out of any one accident, and not less than \$200,000.00 for property damage.

CRISTA acknowledges, agrees and understands that the LESSEE is self-insured for all of its liability exposures. The LESSEE agrees, at its own expense, to maintain through its self-insurance program coverage for its

liability exposures for the duration of this agreement. LESSEE agrees to provide CRISTA with a certificate of self-insurance as adequate proof of insurance.

27. RELEASE OF LIABILITY AND WAIVER OF SUBROGATION.

CRISTA and the LESSEE hereby release the other from any and all liability or responsibility to the other or anyone claiming through or under them by way of subrogation or otherwise, for any loss sustained by, or damage to the property of, CRISTA, LESSEE or any third parties, caused by fire or any other insured peril, during the term of this lease or any extension thereof, even if such fire or other casualty shall have been caused by the fault or negligence of the other party or anyone for whom such party may be responsible; provided, however, that this provision

shall be applicable and in force and effect only with respect to loss or damage occurring during such time as CRISTA'S and LESSEE'S policies shall contain a clause or endorsement to the effect that any such release shall not adversely affect or impair said policies or prejudice the right of the releasing party to recover thereunder. CRISTA and the LESSEE agree that their policies will include such a clause or endorsement. And, further provided, that this provision shall be binding upon the waiving party only so long as the other party is in compliance with other terms of this lease regarding each party's obligation to maintain insurance.

28. ATTORNEY'S FEES AND COURT COSTS.

In the event either party is required to engage an attorney to enforce their rights hereunder or to interpret this agreement, then the prevailing party shall be entitled to reasonable attorney's fees and cost of suit.

29. BINDING EFFECT.

This agreement shall be binding on LESSEE'S successors, provided that this paragraph shall not be construed to negate the conditions set forth in paragraph 13, Assignment, above.

IN WITNESS WHEREOF, the parties hereto have caused the lease to be signed by the respective person or duly authorized officer on the date and year set forth above.

LESSOR: CRISTA MINISTRIES

LESSEE: KING COUNTY, WA

By _____

By _____

James A. Gwinn, President

Gary Locke, King County Exec.

Date _____

Date _____

APPROVED AS TO FORM:

APPROVED:

By _____

By _____

Robert Stier
Deputy Prosecuting Attorney

Paul Tanaka, Director
Department of Public Works

Date _____

Date _____

STATE OF WASHINGTON

COUNTY OF KING

On this ____ day of _____, 199__, before me personally appeared _____, to me known to be the President of the corporation that executed the within and foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that _____ was authorized to execute said instrument and that the seal affixed thereto to the corporate seal of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and seal the day and year first above written.

Notary Public in and for the State
of Washington
My commission expires _____

CRISTA MINISTRIES

Antenna Site License Agreement

ATTACHMENT A

Page 1 of 2

There are instances when a customer or lessee (or their agents) who have equipment at or on the CRISTA Antenna site(s) require access for maintenance or installation of equipment. This can be accomplished according to the following rules:

1. The customer or lessee will furnish to CRISTA Broadcast, (A ministry of CRISTA) the names of the personnel who are allowed access to their systems.
2. Each of these personnel will complete the Antenna Site Statement before entering CRISTA Ministries grounds. (Attachment A page 2 of 2)
3. CRISTA Broadcast will furnish this list to its security personnel, and to any others who have need to know.
4. In view of the residential surroundings, all work done at the CRISTA site is to be conducted in calm and quiet, during normal business hours. After hours, all work will be conducted so as not to disturb the residents or staff of CRISTA in any way. Stop work or rescheduling of work will be the prerogative of CRISTA Broadcast.
5. Three keys for site access will be furnished to the site customer or lessee. The lessee agrees to make no copies of this key. The customer or lessee also agrees to notify the CRISTA Broadcast immediately in the event the key is lost or destroyed. LESSOR shall receive from King County two keys to LESSEE's Equipment Room. One key is to be maintained by the Broadcast Engineer, and one key is to be maintained by the CRISTA Security Office.
6. Required Certificate of Insurance:
Insured: CRISTA Ministries as respects use of CRISTA owned or controlled sites.
Amount: \$1,000,000 (one million dollars) combined single limited general liability, including Auto Liabilities.
CRISTA Ministries to be named as an additional insured with 10 days notice of cancellation.

CRISTA MINISTRIES

Antenna Site License Agreement

ATTACHMENT A

Page 2 of 2

ANTENNA SITE STATEMENT

Having been given access to CRISTA Ministries' antenna site located at 19303 Fremont Avenue N, Seattle, WA 98020, I agree to adhere to the following rules:

1. I will access the site only for purposes relating to Licensee's radio systems equipment subject to a site agreement with CRISTA Ministries.
2. I will not open, enter, adjust, monitor, etc. any equipment belonging to other licensees, or equipment belonging to CRISTA Ministries.
3. Prior to any work on the tower structure, I agree to notify the Broadcast Engineer at 546-7350. If Broadcast Engineer is not available, I will contact CRISTA Security at 546-7555.
4. If I notice unusual conditions or problems, I will notify the Broadcast Engineer at CRISTA Broadcast immediately at (206) 546-7371. If this person is not available, I will notify CRISTA Security at (206) 546-7555.
5. I will carry identification including a photograph, name, and signature positively identifying me to my employer (business card is acceptable).
6. I agree to indemnify and hold harmless CRISTA Ministries, its officers and agents from any and all loss, damage, claim or expense (including investigation and legal fees), which may be asserted against or recovered from CRISTA Ministries for personal injuries or property damages sustained or claimed to have been sustained by reason of any of the activities of myself or my employer.

Signed _____

Job Title _____

Employer _____

Date _____

CRISTA MINISTRIES

Antenna Site License Agreement

ATTACHMENT B

Based on WWCIC Engineering Standard #6 Rev. B (11-88) etc.

Antenna Site Technical Standards

I. Equipment

All users shall furnish the following to Licensor prior to installation of any equipment:

- A. Site application/agreement with signature(s)
- B. Copies of FCC licenses/construction permits
- C. Accurate block diagrams showing operating frequencies, all system components (active or passive) with gains and losses in DB, along with power levels.
- D. Copies of manufacturers' equipment specifications

II. Equipment Not Permitted

The following will not be permitted at the Antenna Site without the written consent of Licensor, which consent shall not be unreasonable withheld:

- A. Any equipment without FCC-type acceptance.
- B. Equipment with crystal oscillator modules which have not been temperature compensated.
- C. Transmitter outputs without a harmonic filter and antenna matching circuitry.
- D. Change in operating frequency(ies) will require user to resubmit site application for approval.
- E. Equipment not designed for high-density site applications.
- F. Ferrite devices looking directly at an antenna.
- G. Nickel plated connectors.
- H. Cascaded receiver multicouplers/preamps without proper preselection band pass filters and attenuators to prevent multicoupler/preamp and receivers front end overload.
- I. Any equipment containing PCB's or other hazardous chemicals as prohibited by local, state, federal government agencies.

III. Radio Frequency Interference Protective Devices
 (from WWCIC Engineering Standard #6 Rev. B (11-88))

- A. Transmitters in the 25 to 54 MHz range shall have isolation of at least 20 dB followed by a low pass filter or cavity providing a minimum of 30 dB attenuation removed 1.0 MHz from the operating frequency.
- B. Transmitters in the 66 to 88 MHz range shall have at least 25 dB of isolation followed by a band pass cavity providing at least 20 dB of attenuation 1.0 MHz from the operating frequency.
- C. Transmitters in the 88 to 108 MHz range operating at a power level of 350 watts or less shall have at least 25 dB of isolation followed by a band pass cavity providing at least 25 dB of attenuation 1.0 MHz from the operating frequency.
- D. Transmitters in the 88 to 108 MHz range operating at a power level greater than 350 watts shall have a band pass cavity providing at least 25 dB attenuation 1.0 MHz from the operating frequency.
- E. Transmitters in the 130 to 225 MHz range shall have at least 50 dB of isolation followed by a low pass filter and band pass cavity with a minimum of 25 dB of attenuation 1.0 MHz removed from the operating frequency.
- F. Transmitters in the 400 to 470 MHz range shall have at least 50 dB of isolation followed by a low pass filter and band pass cavity with a minimum of 15 dB of attenuation 1.0 MHz removed from the operating frequency.
- G. Transmitters in the 806 to 960 MHz range shall have at least 50 dB of isolation followed by a low pass filter and band pass cavity with a minimum of 15 dB of attenuation 1.0 MHz removed from the operating frequency.

It should be emphasized that the above specifications are minimum requirement. CRISTA Broadcast reserves the right to require additional protective devices. Additional protective devices may be required based upon evaluation of the following information:

- Theoretical TX mixes, particularly second and third order
- Antenna location and type
- Combiner/multicoupler configurations
- Transmitter specifications
- Receiver specifications
- Historical problems
- Transmitter to transmitter isolation
- Transmitter to antenna isolation
- Transmitter to receiver isolation
- Calculated level of IM products
- Transmitter output power
- Transmitter ERP
- Spectrum analyzer measurements
- VSWR measurements
- Existing cavity selectivity

Any other equipment, signal, measurement, specification to protect the integrity of the CRISTA or other Licensee radio frequency or signal.

IV. Antennas and Mounts

- A. Mounted only on approved side arms or other specified mount. All inverted antennas must be designed by manufacturer for inverted mounting.
- B. All mounting hardware hot-dip galvanized or stainless steel.
- C. connections to be taped with vulcanizing rubber tape and covered with stretch vinyl tape (Scotch #33 or equivalent) and Scotchkoted (including booted pigtails).
- D. Must meet manufacturer's VSWR specifications.
- E. Antennas with corroded elements must be repaired or replaced within thirty days after notification by Licensor.
- F. Must be DC grounded type, or have the appropriate lightning protection as determined by Licensor.
- G. Mounting pipes must be cut such that they do not extend above the antenna mounting sleeve.
- H. Any corroded hardware must be replaced immediately upon notification.

V. Tower

- A. No welding or drilling of any tower members will be permitted without written permission by the Broadcast Engineer.
- B. Tower work shall be done only by authorized contractors.

VI. Cable

- A. All antenna lines to be jacketed heliax (or equivalent), 1/2" or greater.
- B. No kinked or cracked cable.
- C. Any cable fasteners exposed to weather must be nylon ultraviolet resistant type or stainless steel.
- D. All transmit interconnecting cables/jumpers must be solid copper outer conductor (1/2" superflex or equivalent), not to exceed 8 feet in length where practical.
- E. All receiver intercabling must be 100 percent shielded coax.

- F. All inside cable must be run in troughs where provided.
- G. Where no troughs or cable trays exist, all cable must be tied at not less than three foot intervals.
- H. All unused lines must be tagged at both ends showing termination points.
- I. All AC line cords must be 3 conductor with grounding plugs.
- J. All transmission lines must be grounded immediately before making the bend under the waveguide bridge with grounding kits made specifically for this purpose. All transmission lines must be grounded at the antenna through its mount, at the base of tower, and at the cable entrance ground bus.
- K. All transmission lines must be clamped with stainless steel clamps made specifically for this purpose (not wraplock) to the waveguide ladder and to the waveguide bridge for the full external run of the line.

VII. Connectors

- A. Must be teflon filled N type, including chassis/bulkhead connectors. UHF connectors are to be used only when no other type of connector is available on the equipment.
- B. Must be properly fabricated (soldered if applicable) if field installed.
- C. Must be taped and Scotchkoted at least four inches onto the jacket if exposed to weather.
- D. Male pins must be proper length.
- E. Female contacts may not be spread.
- F. Connectors must be plier tight as opposed to hand tight.
- G. Must be silver plated or brass.
- H. Must be electrically and mechanically equivalent to OEM connectors.

VIII. Receivers

- A. All shields must be in place.
- B. VHF and up must use helical resonator front ends.
- C. Must meet manufacturer's specifications, particularly with regard to bandwidth, discriminator swing and symmetry, and spurious responses.

- D. Crystal filters/preselectors/cavities must be installed in RX legs where appropriate.
- E. All repeater tone squelch circuitry must use "AND" logic.

IX. Transmitters

- A. Must meet original manufacturer's specifications.
- B. All shields must be in place.
- C. Must have a visual indication of transmitter operation.
- D. Must be tagged with Licensee's name, equipment model number, serial number, and operating frequency(ies).
- E. All low level, pre-driver and driver stages in exciter must be shielded.
- F. All power amplifiers must be shielded.
- G. Output power may not exceed 150 watts per station unless otherwise authorized by Licensor.

X. Combiners/Multicouplers

- A. Shall at all times meet manufacturer's specifications.
- B. Must be tuned using manufacturer approved procedures.
- C. Must provide a minimum of 55 DB transmitter to transmitter isolation.

XI. Cabinets

- A. All cabinets must be bonded together and must be grounded to the building ground system.
- B. All doors must be on or closed.

XII. Installation Procedures

- A. Installation may take place only after Licensor has furnished written approval for installation. Installation then must proceed exactly as approved. Changes must be re-submitted for approval.
- B. Equipment may not be operated until the installation has been approved by Licensor.

XIII. Maintenance

- A. All external indicator lamps/leds must be working.
- B. Equipment parameters must meet manufacturers' specifications.
- C. All cover, shield, and rack fasteners must be in place and securely tightened.
- D. Local speakers must be turned off except during service.

XIV. FCC Licensing

- A. Submit copies of all FCC licenses. Licensor must receive copies of applications for renewal or modification of license.

XV. Interference Diagnosing Procedures

- A. All licenses must cooperate in a timely fashion with Licensor when called upon to investigate a source of interference, whether or not it can be proven that their equipment is involved.

XVI. Miscellaneous

- A. All installations must be maintained in a neat and orderly manner.
- B. Doors to equipment and antenna spaces shall be closed and locked at all times.
- C. Access to equipment and antennas shall be by authorized personnel only, and only for purposes of installation, service, or maintenance.
- D. All equipment labelled with owners/operators name and 24 hour phone number.

CRISTA MINISTRIES

Antenna Site License Agreement

Attachment C

I. Summary of Antenna Equipment

A. Microwave Antennas

All of our 800 MHz trunked radio sites are connected on a 6 GHz looped digital microwave system. This means that each 800 MHz site utilizes two microwave antennas so it is connected to two other sites in the loop. One of our paths to this site will be from a site known as View Park, which is on the Kitsap Peninsula. The other path will be from our Squak Mountain site. Here are the pertinent details on these paths:

View Park

Antenna:	P-65A96 RF with radome (8' dish)
Antenna Centerline:	155'
Azimuth:	203.1°
TX Frequency:	6665.0 H
RX Frequency:	6825.0 H

Squak Mountain

Antenna:	MHP-65A96D LF with radome (8' dish)
Antenna Centerline:	130'
Azimuth:	141.8°
TX Frequency:	6665.0 V
RX Frequency:	6815.0 V

DB810K TPT™ and DSD™ OMNI ANTENNAS
DB810M 10 dBd GAIN, 806-960 MHz

11911 **DECIBEL**

- These antennas are available for 806-960 MHz conventional, trunked, paging and cellular operations. They both offer 10 dBd gain and have similar VSWRs and frequency ranges. The DB810K handles 500 watts input, and the DB810M, which is slimmer and lighter, handles 450 watts. The ruggedized DB810K is constructed with 3" (76.2 mm) OD Minimum-Tip-Deflection™ fiberglass; the DB810M has a 2" (50.8 mm) OD MTD™ radome made of one-eighth inch (3.18 mm) thick fiberglass. Both are Horizon Blue™ color. DB810K has a 28" (711 mm) aluminum alloy extension pipe for mounting, the DB810M a 26" (660.4 mm) pipe. Both attach to platforms, towers and structures with round members to 3.5" (88.9 mm) OD or angle member to 3.75" (92.25 mm).

Design and Construction

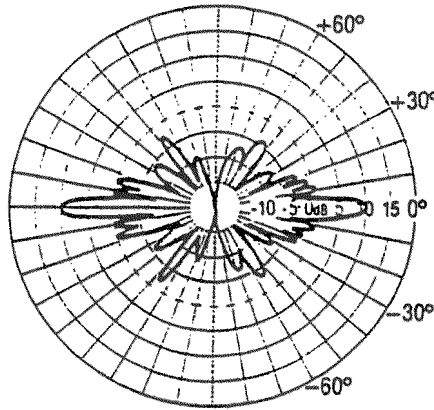
Both antennas are center-fed, but the DB810K is Transposed Tube™ (TPT™) design; the DB810M is Dual-Skirt-Dipole™ (DSD™). "M" models offer optional 3° or 6° of electrical beamtilt. All metal used in the radiator, feed and matching systems are made of copper or brass, which prevents signal cells. Each antenna is tested for power rating compliance and the absence of intermodulation generators.

For lightning protection, a large brass tube extends from top to bottom, with provisions for grounding to the tower. Top and bottom moisture drains are provided.

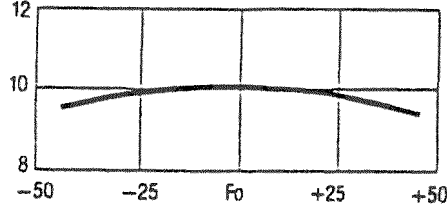
Ordering Information

Specify model and frequency range. Mount, VAPOR-WRAP® and HELIAX® are included.

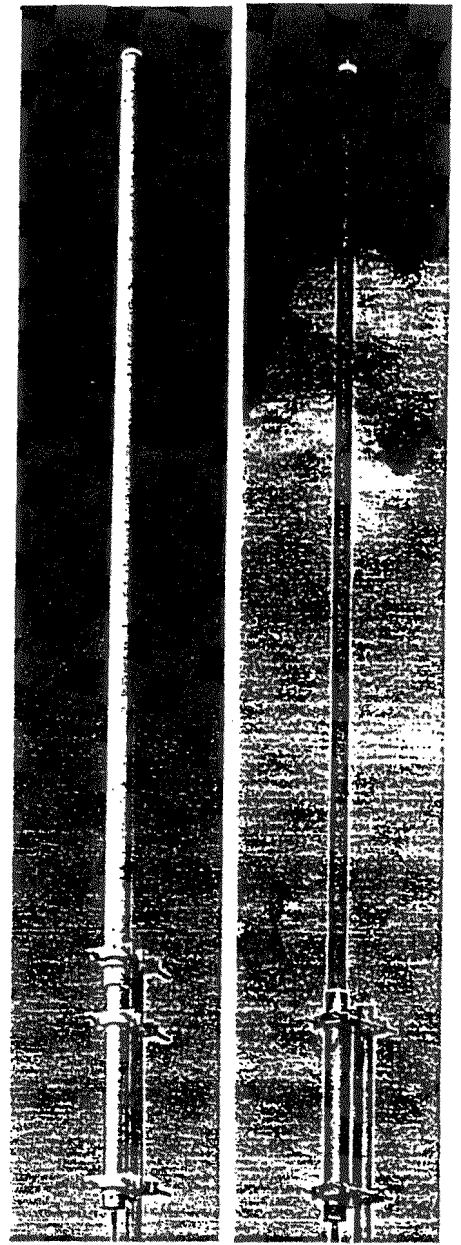
DB810K and DB810M Vertical Pattern



DB810K and DB810M Gain-dBd vs. Frequency-MHz



Frequency Ranges Available - MHz	
DB810K-XT or DB810M-XT	806-869
DB810K-XC or DB810M-XC	824-896
DB810K-Y or DB810M-Y	890-960
For antenna with Flange add "F" Example: DB810MF-XC.	
For Pressurized antenna add "P" Example: DB810MP-XC.	
For downtilt add T3 for 3° or T6 for 6°. Example: DB810MT6-XC.	
For uptilt add U3 for 3° or U6 for 6°. Example: DB810MU6-XC.	
No beamtilt on "K" models.	



DB810K

DB810M

VAPOR-WRAP is a registered trademark of Decibel Products.
 HELIAX is a registered trademark of Andrew Corporation.

Electrical Data		
	DB810K	DB810M
Frequency Ranges — MHz	806-960	806-960
Gain (maximum) — dBd	10	10
Beamwidth "E" Plane (half power)	6°	6°
Beamwidth "H" Plane (half power)	Omni	Omni
Maximum power input — watts	500	450
Input impedance — ohms	50	50
VSWR	1.5 to 1 or better	1.5 to 1 or better
Lightning protection	Direct ground	Direct ground
Termination	Type N-Female (fixed)	Type N-Female (fixed)
HELIAX® jumper:	N-Male/N-Male	N-Male/N-Male

Mechanical Data		
	DB810K	DB810M
Materials:		
Radome (fiberglass) — in. (mm)	3 (76.2) OD	2 (50.8) OD
Clamps (galvanized steel)	DB5091-3	DB5087
Maximum exposed area (flat plate equivalent) — ft² (m²)	2 (.19)	1.34 (.125)
Lateral thrust at 100 mph (161 km/hr) — lbs. (kg)	99 (45)	68 (30.8)
Length — in. (mm)	158 (4,013)	155 (3,937)
Tip deflection at 100 mph (161 km/hr) with extension	2.5°	12°
Net weight — lbs. (kg)	35 (15.88)	30 (13.5)
Shipping weight — lbs. (kg)	98 (44.5)	45 (20.4)

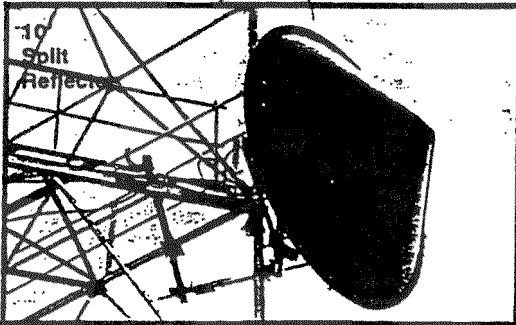
Mark Antennas Division offers a variety of sizes of Heli-Arc welded aluminum Multi-Element Grid Parabolas for point-to-point relay operation in the 335-2700 MHz frequency range. The grid construction is lightweight, yet extremely strong. One of the outstanding advantages of the grid antenna is that it has wind loading characteristics of only 25% to 40% of comparable size solid parabolas.

STANDARD ANTENNAS

Mark's parabolic antennas have a unique designed backframe far superior to the standard technique used throughout the industry. The ringback with its multiple point suspension provides the most rugged backframe available on solid antennas.

HIGH PERFORMANCE ANTENNAS

The High Performance Antennas include a shroud and planar radome to improve radiation suppression from the back and side. This allows the high performance antenna to provide superior operation in frequency congested areas.



Standard color is dark gray. Aviation White and International Orange are available on request.

The use of low VSWR feeds by Mark minimizes the antenna noise contribution to the overall system.

1911

MAXIMUM HIGH PERFORMANCE ANTENNAS

Mark's Maximum High Performance Antennas offer high efficiency, low VSWR and maximum radiation suppression. The superior radiation characteristics allow for maximum channel expansion and simultaneous use of identical transmitter frequencies in frequency congested areas.

An extremely rugged backframe and exclusive shrouding with a Raydel planar radome provide a most rugged antenna.

All of Mark's antennas meet or exceed EIA Standards included in specifications RS-222D and RS-195C. All feeds are rear mounted with continuous polarization adjustment and pressurable to 10 PSIG.

Fiberglass Radomes

Mark radomes are used in conjunction with Mark standard antennas to provide additional protection from ice, snow and dirt which can cause reduced antenna performance.

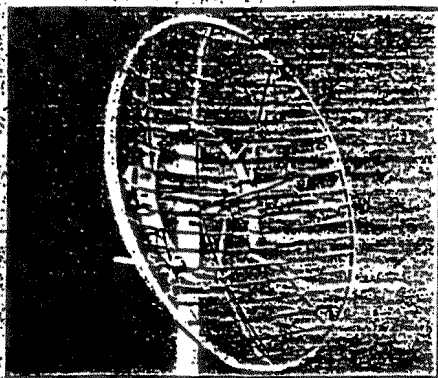
Radomes are of fiberglass reinforced polyester resin with a smooth Gel-coat surface to shed dirt, snow and ice while minimizing ultraviolet radiation deterioration.

Heated radomes are mechanically identical to the unheated ones, with the addition of a spirally wound heating element molded into the inner surface and an air-temperature-sensing thermostat which energizes the heating element during only the ice forming range of 25 and 35 degrees Fahrenheit (-6 degrees to +3 degrees C).

UNHEATED RADOMES							
Diameter Ft. (M)	Model Number	Attenuation (dB)					Weight
		2 GHz	4 GHz	6 GHz	11 GHz	13 GHz	
2 (0.6)	R-24W	0.1	0.2	0.3	1.0	1.2	4
4 (1.2)	R-48W	0.1	0.2	0.3	1.0	1.5	16
6 (1.8)	R-72W	0.1	0.25	0.4	1.0	1.7	32
8 (2.4)	R-96W	0.1	0.3	0.5	1.1	1.8	60
10 (3.0)	R-120W	0.2	0.5	0.8	1.3	2.1	110
12 (3.7)	R-144W	0.2	0.6	1.0	1.5	2.2	175

HEATED RADOMES									
Diameter Ft. (M)	Model Number	Attenuation (dB)					Volts/ Watts		Weight
		2 GHz	4 GHz	6 GHz	11 GHz	13 GHz			
2 (0.6)	HR-24W	0.1	0.2	0.3	1.0	1.4	110 / 150	4	
4 (1.2)	HR-48W	0.1	0.2	0.3	1.0	1.7	110 / 800	16	
6 (1.8)	HR-72W	0.1	0.25	0.4	1.0	1.9	220 / 1600	32	
8 (2.4)	HR-96W	0.1	0.3	0.5	1.1	2.0	220 / 2500	60	
10 (3.0)	HR-120W	0.2	0.5	0.8	1.3	2.4	220 / 3500	110	
12 (3.7)	HR-144W	0.2	0.6	1.0	1.5	2.5	220 / 6600	175	

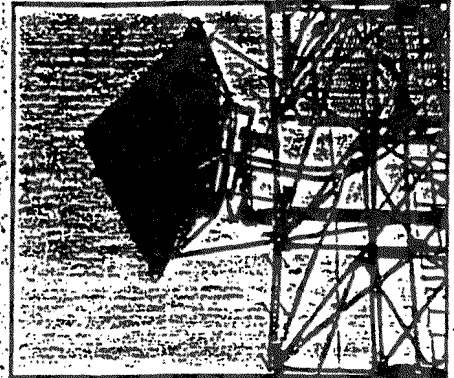
NOTE: MARK ANTENNAS DIVISION DOES NOT RECOMMEND FIBERGLASS RADOMES ABOVE 12 GHz



900 MHz Grid



Super Short Haul



Standard Solid With Radome

Diameter FL (M)	Model Number	Part 94 FCC Cat.	Gain/dBI			B/W Deg	F/B Ratio	VSWR	Cross Pol.
			Low	Mid	High				

923-957 MHz (Multiple Address Systems Antennas)

Grid Antennas										
G - Pressurized, 7/8" EIA Termination GL - Press. 7/8" EIA, Low VSWR GF - Non Press. 7/8" EIA GN - Non Press. N Female										
4	(1.2)	P-9LA48G	B	19.1	19.3	19.5	17.7	22	1.30	26
6	(1.8)	P-9LA72G	A	21.9	22.1	22.3	12.0	25	1.30	30
8	(2.4)	P-9LA96G	A	24.8	25.0	25.2	8.9	28	1.30	27
10	(3.0)	P-9LA120G	A	26.8	27.0	27.2	6.6	28	1.30	27
12	(3.7)	P-9LA144G	A	28.3	28.5	28.7	5.9	30	1.30	30
15	(4.6)	P-9LA180G	A	30.3	30.5	30.7	4.8	31	1.30	30
Short Haul Antenna										
Specify 20 MHz Band Width										
6	(1.8)	SH-9LA72G	B	19.5	19.7	19.9	17.3	19	1.30	28
Super Short Haul Antenna (UPS Shippable)										
Specify 20 MHz Band Width										
6	(1.8)	SSH-9LA72G	B	20.3	20.5	20.6	17.3	29	1.30	27
Standard Solid Antennas										
4	(1.2)	P-9LA48	B	19.1	19.3	19.5	17.7	26	1.30	26
6	(1.8)	P-9LA72	A	21.9	22.1	22.3	11.8	27	1.30	24
8	(2.4)	P-9LA96	A	24.8	25.0	25.2	8.9	28	1.30	24
10	(3.0)	P-9LA120	A	26.8	27.0	27.2	7.1	30	1.30	25
12	(3.7)	P-9LA144	A	28.3	28.5	28.7	5.9	34	1.30	30

For High Performance and Maximum High Performance Antennas Call Factory For Availability.

940-960 MHz

Grid Antennas										
G - Pressurized, 7/8" EIA Termination GL - Press. 7/8" EIA, Low VSWR GF - Non Press. 7/8" EIA GN - Non Press. N Female										
4	(1.2)	P-9A48G	B	19.0	19.2	19.2	19.25	22	1.30	25
6	(1.8)	P-9A72G	A	22.0	22.1	22.2	12.5	24	1.30	25
8	(2.4)	P-9A96G	A	24.5	24.6	24.7	8.7	29	1.30	26
10	(3.0)	P-9A120G	A	26.9	27.0	27.1	6.6	27	1.30	26
12	(3.7)	P-9A144G	A	28.5	28.6	28.7	5.8	31	1.30	26
15	(4.6)	P-9A180G	A	30.5	30.6	30.7	4.7	32	1.30	26
Short Haul Antenna										
6	(1.8)	SH-9A72G	B	19.4	19.5	19.6	20.0	20	1.30	19
Super Short Haul Antenna (UPS Shippable)										
6	(1.8)	SSH-9A72G	B (H)	19.9	20.0	20.1	19.0	24	1.30	28
			A (V)	19.9	20.0	20.1	10.0	29	1.10	21
Standard Solid Antennas										
3.5	(1.1)	P-9A42	-	17.2	17.2	17.3	20.5	28	1.30	25
4	(1.2)	P-9A48	B	19.0	19.1	19.2	19.25	28	1.30	26
6	(1.8)	P-9A72	A	22.0	22.1	22.2	12.5	26	1.30	20
8	(2.4)	P-9A96	A	24.9	25.0	25.1	9.3	29	1.30	24
10	(3.0)	P-9A120	A	26.7	26.8	26.9	7.6	31	1.30	25
12	(3.7)	P-9A144	A	27.9	28.0	28.1	6.0	35	1.30	30

Feed Input Flange: N Female Or 7/8" EIA Available

The following summarizes the antenna weight with and without ice. The weight includes the reflector, feed, mount and suggested side braces. Ice is assumed to be 1/2" radial at 56 pounds / cubic foot.

11911

GRID ANTENNAS (335-1000 MHz)

Antenna Diameter
4 Foot
6 Foot
8 Foot
10 Foot
12 Foot
15 Foot

Weight (W / Ice)
83
112
192
240
450
578

Weight (W / Ice)
122
154
370
517
767
1186

GRID ANTENNAS (1000-2700 MHz)

Antenna Diameter
4 Foot
6 Foot
8 Foot
10 Foot
12 Foot
15 Foot

Weight (W / O Ice)
86
128
216
286
465
750

Weight (W / Ice)
163
277
570
646
1099
1966

STANDARD SOLID ANTENNAS

Antenna Diameter
2 Foot
4 Foot
6 Foot
8 Foot
10 Foot
12 Foot

Weight (W / O Ice)
30
109
170
240
467
638

Weight (W / Ice)
45
158
254
411
701
988

STANDARD SOLID ANTENNAS WITH RADOME

Antenna Diameter
2 Foot
4 Foot
6 Foot
8 Foot
10 Foot
12 Foot

Weight (W / O Ice)
37
127
202
293
575
796

Weight (W / Ice)
64
176
301
445
809
1146

HIGH & MAXIMUM HIGH PERFORMANCE ANTENNA

Antenna Diameter
2 Foot
4 Foot
6 Foot
8 Foot
10 Foot
12 Foot

Weight (W / O Ice)
46
165
336
491
866
986

Weight (W / Ice)
67
275
566
909
1609
1850

11911

Standard Solid Antennas										
2	(0.6)	P-65A24		29.7	30.1	30.6	5.4	37	1.12	30
4	(1.2)	P-65A48		35.8	36.3	36.7	2.5	43	1.10	30
6	(1.8)	P-65A72	B	39.4	39.9	40.3	1.7	48	1.10	30
8	(2.4)	P-65A96	A	41.9	42.4	42.8	1.3	52	1.10	32
10	(3.0)	P-65A120	A	43.6	44.0	44.5	1.0	58	1.10	32
12	(3.7)	P-65A144	A	45.4	45.8	46.3	0.8	58	1.10	32
Standard Solid Antennas - Low VSWR										
2	(0.6)	P-65A24L		29.7	30.1	30.6	5.4	37	1.10	30
4	(1.2)	P-65A48L		35.8	36.3	36.7	2.5	43	1.07	30
6	(1.8)	P-65A72L	B	39.4	39.9	40.3	1.7	48	1.06	30
8	(2.4)	P-65A96L	A	41.9	42.4	42.8	1.3	52	1.04	32
10	(3.0)	P-65A120L	A	43.6	44.0	44.5	1.0	58	1.04	32
12	(3.7)	P-65A144L	A	45.4	45.8	46.3	0.8	58	1.04	32
Standard Solid Antennas - Dual Polarized - Low VSWR										
4	(1.2)	P-65A48DL		35.8	36.3	36.7	2.5	46	1.07	33
6	(1.8)	P-65A72DL	B	39.4	39.9	40.3	1.7	48	1.07	30
8	(2.4)	P-65A96DL	A	41.9	42.4	42.8	1.3	52	1.06	32
10	(3.0)	P-65A120DL	A	43.6	44.0	44.5	1.0	58	1.06	32
12	(3.7)	P-65A144DL	A	45.4	45.8	46.3	0.8	58	1.06	32
High Performance Antennas - Plane Polarized - Low VSWR										
4	(1.2)	HP-65A48L		35.8	36.3	36.7	2.5	60	1.07	30
6	(1.8)	HP-65A72L	B	39.4	39.9	40.3	1.7	64	1.06	30
8	(2.4)	HP-65A96L	A	41.9	42.4	42.8	1.4	66	1.04	38
10	(3.0)	HP-65A120L	A	43.6	44.0	44.5	1.0	74	1.04	34
12	(3.7)	HP-65A144L	A	45.4	45.8	46.3	0.8	71	1.04	33
High Performance Antennas - Dual Polarized - Low VSWR										
4	(1.2)	HP-65A48DL		35.8	36.3	36.7	2.5	60	1.07	30
6	(1.8)	HP-65A72DL	B	39.4	39.9	40.3	1.7	64	1.06	30
8	(2.4)	HP-65A96DL	A	41.9	42.4	42.8	1.3	67	1.06	30
10	(3.0)	HP-65A120DL	A	43.6	44.0	44.5	1.0	74	1.06	34
12	(3.7)	HP-65A144DL	A	45.2	45.6	46.0	0.8	71	1.06	33
Maximum High Performance Antennas - Dual Polarized - Low VSWR										
4	(1.2)	MHP-65A48DL		35.7	36.1	36.6	2.6	66	1.07	30
6	(1.8)	MHP-65A72DL	A	39.3	39.7	40.2	1.8	72	1.06	34
8	(2.4)	MHP-65A96DL	A	41.9	42.4	42.8	1.3	77	1.06	34
10	(3.0)	MHP-65A120DL	A	43.6	44.0	44.5	1.0	80	1.06	37
12	(3.7)	MHP-65A144DL	A	45.4	45.8	46.3	0.8	82	1.06	37

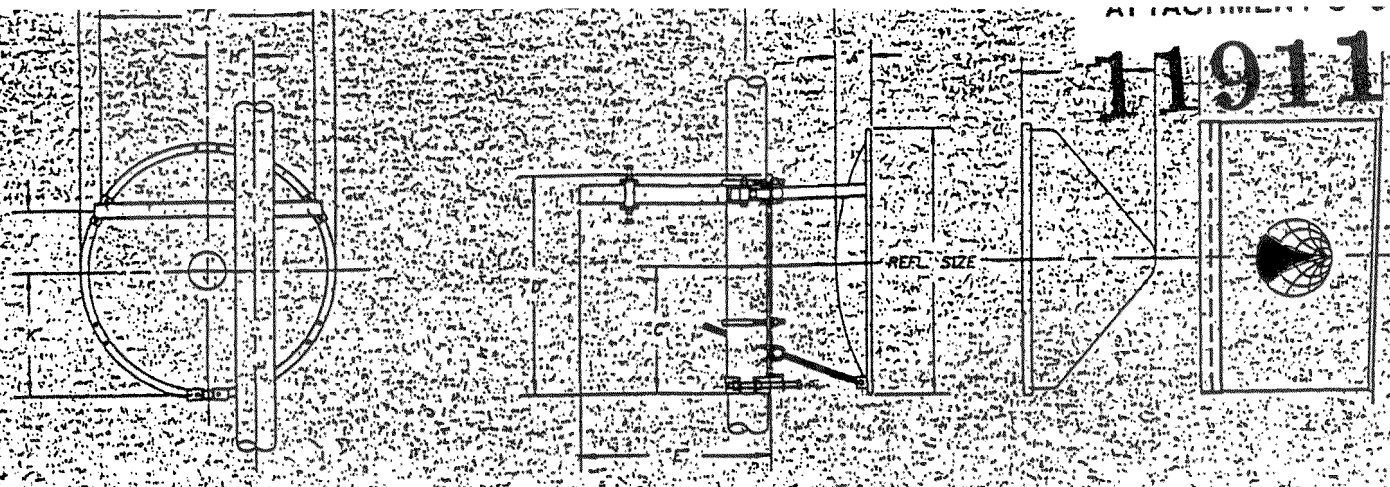
Feed Input Flange: CPR 137G Or.UG 343 B/U

10.5-10.7 GHz

Continued On Next Page

Standard Solid Antennas- Plane Polarized										
2	(0.6)	P-105A24		34.0	34.1	34.2	3.15	44	1.15	32
4	(1.2)	P-105A48	B	40.2	40.3	40.4	1.6	50	1.10	26
6	(1.8)	P-105A72	B	43.9	44.0	44.1	1.08	53	1.08	30
8	(2.4)	P-105A96	B	45.9	46.0	46.1	0.84	55	1.08	30
10	(3.0)	P-105A120	A	47.9	48.0	48.1	0.63	55	1.08	34
12	(3.7)	P-105A144	A	49.4	49.5	49.6	0.52	55	1.08	34
Standard Solid Antennas- Plane Polarized - Low VSWR										
2	(0.6)	P-105A24L		34.0	34.1	34.2	3.15	44	1.10	32
4	(1.2)	P-105A48L	B	40.2	40.3	40.4	1.6	50	1.06	26
6	(1.8)	P-105A72L	B	43.9	44.0	44.1	1.08	53	1.04	30
8	(2.4)	P-105A96L	B	45.9	46.0	46.1	0.84	55	1.04	30
10	(3.0)	P-105A120L	A	47.9	48.0	48.1	0.63	55	1.04	34
12	(3.7)	P-105A144L	A	49.4	49.5	49.6	0.52	55	1.04	34
Standard Solid Antennas- Dual Polarized - Low VSWR										
2	(0.6)	P-105A24DL	B	34.0	34.1	34.2	3.2	45	1.15	32
4	(1.2)	P-105A48DL	B	40.2	40.3	40.4	1.6	50	1.06	26
6	(1.8)	P-105A72DL	B	43.9	44.0	44.1	1.08	50	1.04	32
8	(2.4)	P-105A96DL	B	45.9	46.0	46.1	0.84	52	1.04	32
10	(3.0)	P-105A120DL	A	47.9	48.0	48.1	0.63	55	1.04	34
12	(3.7)	P-105A144DL	A	49.4	49.5	49.6	0.52	55	1.04	34

Feed Input Flange: CPR-90G

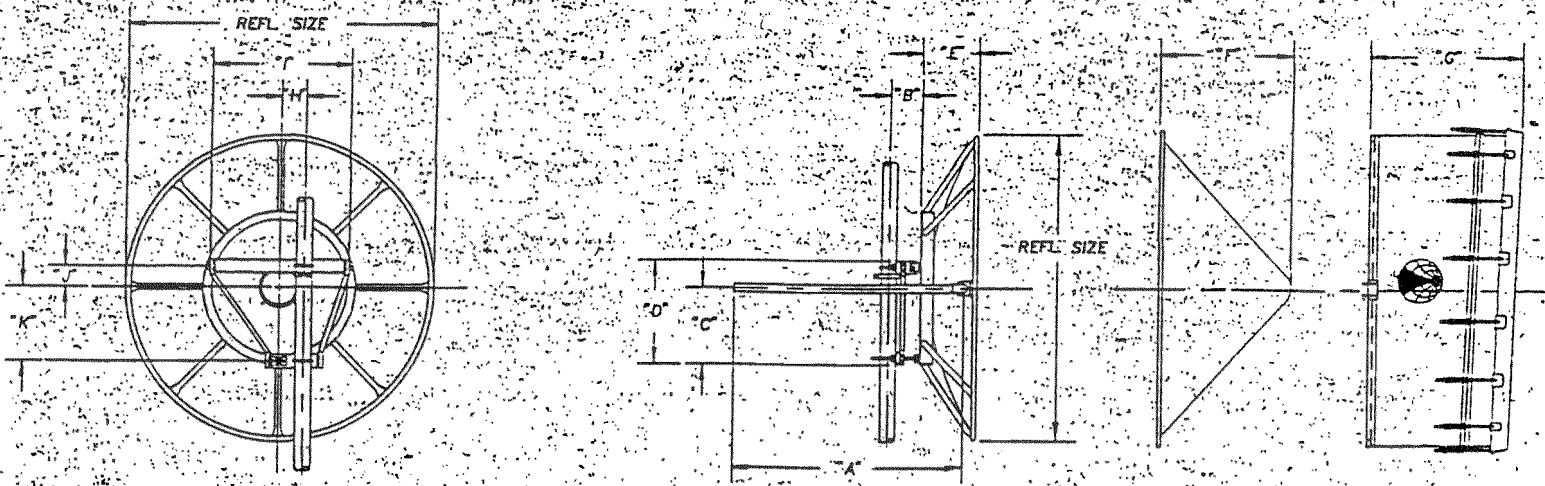


REFLECTOR
DIAMETER

STANDARD, HIGH & MAXIMUM HIGH PERFORMANCE
DIMENSIONS 4 - 15 GHz
IN INCHES / (CM)

REFLECTOR DIAMETER	A =	B =	C =	D =	E =	F =	G =	H =	I =	J =	K =
2 FOOT (61)	3 9/16 (9)	9 1/4 (23)	11 11/16 (30)	19 7/8 (50)	65 (165)	17 3/4 (45)	16 13/16 (43)	3-8 (8-20)	19 15/16 (51)	5 3/4 (15)	11 7/16 (29)
4 FOOT (122)	8 (20)	6 5/8 (17)	26 9/16 (67)	42 1/8 (107)	65 (165)	27 (69)	25 5/16 (64)	3-8 (8-20)	41 9/16 (106)	12 (30)	24 (61)

Please Call Factory For Grated Dimensions.



REFLECTOR
DIAMETER
(CM)

STANDARD, HIGH & MAXIMUM HIGH PERFORMANCE
DIMENSIONS 4 - 15 GHz
IN INCHES / (CM)

REFLECTOR DIAMETER (CM)	A =	B =	C =	D =	E =	F =	G =	H =	I =	J =	K =
6 FOOT (183)	60 (152)	8 5/8 (22)	19 (48)	27 (69)	13 (33)	31 1/2 (80)	35 1/4 (90)	31 1/2 (80)	7 (18)	17 (43)	75 7/8 (193)
8 FOOT (244)	96 (244)	8 5/8 (22)	23 (58)	31 (79)	18 3/4 (48)	34 3/8 (87)	40 3/8 (103)	40 (102)	7 (18)	21 (53)	99 5/8 (259)
10 FOOT (305)	120 (305)	11 (28)	31 (78)	43 (109)	21 1/2 (55)	46 (117)	49 3/8 (125)	54 (137)	7 (18)	28 (71)	121 5/8 (309)
12 FOOT (366)	144 (366)	11 (28)	36 (91)	50 (127)	28 3/4 (73)	43 1/2 (110)	46 3/4 (119)	64 (163)	7 (18)	34 (86)	154 1/4 (392)

Please Call Factory For Grated Dimensions.

CRISTA MINISTRIES

Broadcast Tower Lease Agreement

Attachment D

I. Equipment Building

The Equipment Building shall be similar to the design agreed upon between King County and CRISTA Ministries. The design and layout are attached.

The King County Equipment Room shall be approximately 312 square feet. The extended concrete pad shall be approximately 252 +/- square feet (layout shown on attached plan).

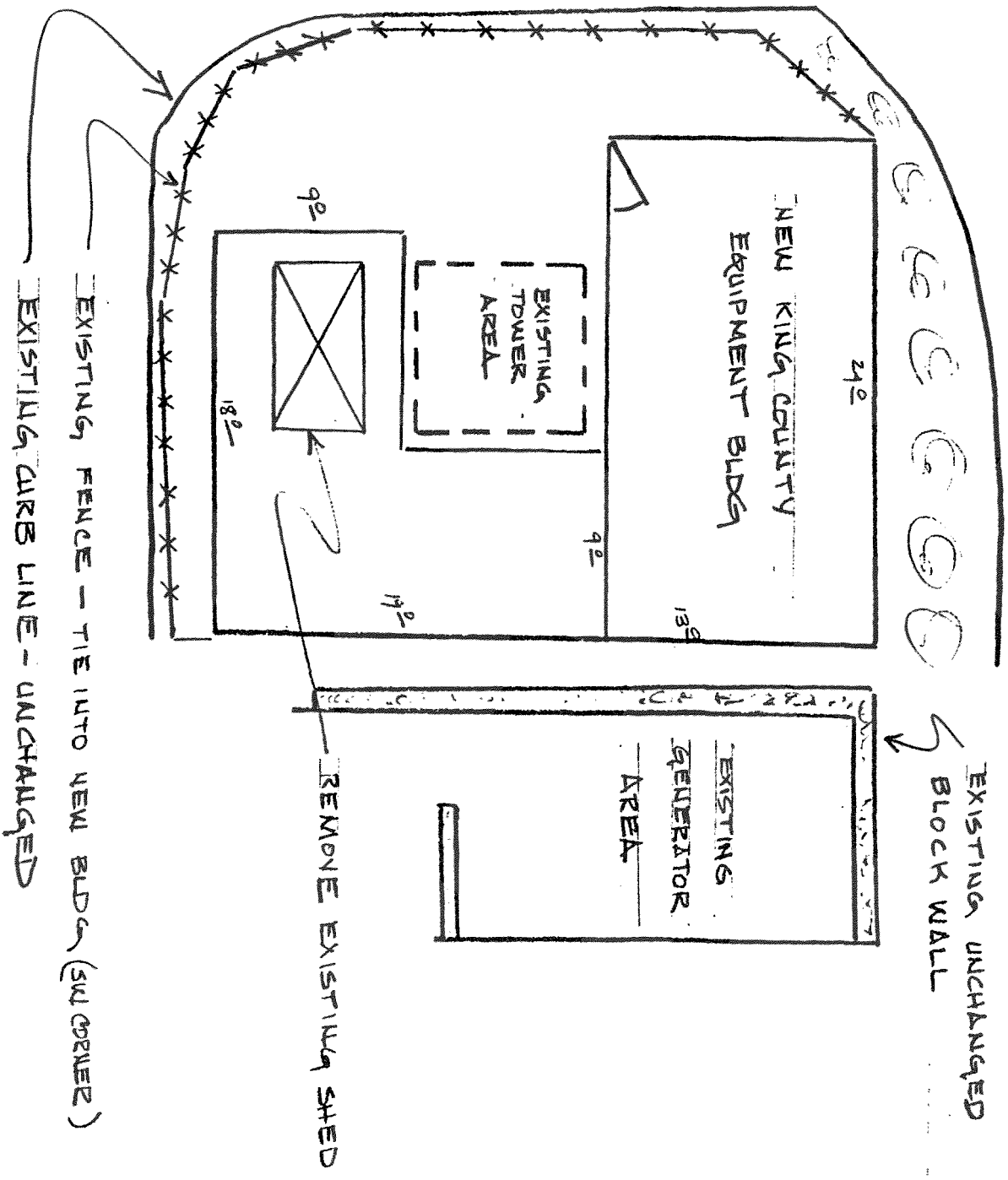
King County agrees to revert buildings to ownership of CRISTA Ministries at its depreciated value or remove the building(s) at the discretion of CRISTA's direction upon end of the lease agreement.

CRISTA - KING COUNTY SITE PLAN

BUILDING - PAD LAYOUT

11911

ATTACHMENT D₁



- WEST & NORTH WALL OF EQUIP BLDG TO BE SITED ON EXIST FENCE LINE

SCALE 1/8" = 1'-0"

2/95

CRISTA MINISTRIES

Broadcast Tower Lease Agreement

Attachment E
Lease Fees

The following are the lease fees for King County antennas to be placed on the CRISTA Ministries Broadcast Tower.

Proposed Antennas are as follows:

- 1. Omni-directional antennas for 800 MHZ trunked radio system--located at 330' level
- 2. Antennas for transmit use--located at 300' level
- 3. Dishes--located at 130' and 155' level

Issues of consideration for lease agreement:

- 1. Number of antennas--rods vs. dishes
- 2. Transmit/receive equipment housed in equipment shed
- 3. Terms of lease

Lease Fees:

King Count Building (13' x 24')	\$ 624.00/month
1 Antenna 15' @ 330'	112.00/month
1 Antenna 15' @ 300'	105.00/month
1 Antenna 15' @ 300'	105.00/month
1 Antenna 15' @ 300'	105.00/month
1 Dish 8 x 8 @ 155'	102.00/month
1 Dish 8 x 8 @ 130'	96.00/month
 Total	 \$ 1,249.00/month
 Annual Total	 \$14,988.00/year

CRISTA Ministries reserves the right to adjust fees as a result of changes in program and equipment, changes in market value, and changes per lease agreement.

j:\tower\kingco