BOARD OF SUPERVISORS AGENDA ITEM REPORT
CONTRACTS / AWARDS / GRANTS

○ Award ◉ Contract ○ Grant

Requested Board Meeting Date: May 21, 2019

** = Mandatory, information must be provided*

or Procurement Director Award ☐

***Contractor/Vendor Name/Grantor (DBA):**
Arizona Public Service Company

***Project Title/Description:**
Reciprocal Non-Exclusive Tower License for Wireless Communications Facilities

***Purpose:**
This License Agreement is for 5 years, with the option for 3 five year extensions, and includes new and updated Exhibits to memorialize tenant equipment, site conditions, and Pima County requirements for Access, Special Conditions, Rules, and Regulations.

***Procurement Method:**
Non-Procurement contract and not subject to Procurement rules.

***Program Goals/Predicted Outcomes:**
License Agreement to allow Arizona Public Service Company to install, maintain, and operate radio communication antennas on the Pima County owned Childs Mountain Tower facility.

***Public Benefit:**
Licensee provides electrical services for the Childs Mountain PCWIN communications site as stated in paragraph 15 of this License Agreement.

***Metrics Available to Measure Performance:**
Adherence to License Agreement provisions and ongoing delivery of electrical services.

***Retroactive:**
No

To: COB. 5.14.19
Ver. - 1
Pgs - 30
(2)
Addendum

Contract / Award Information

Document Type: CTN Department Code: IT Contract Number (i.e.,15-123): 19*0198

Effective Date: 05/21/2019 Termination Date: 05/20/2024 Prior Contract Number (Synergen/CMS): N/A

☐ **Expense Amount: $*** N/A ☐ Revenue Amount: $ N/A

***Funding Source(s) required:** N/A

Funding from General Fund? ○Yes ◉No If Yes $ _____ % _____

Contract is fully or partially funded with Federal Funds? ☐ Yes ☒ No

If Yes, is the Contract to a vendor or subrecipient? _____

Were insurance or indemnity clauses modified? ☐ Yes ☒ No

If Yes, attach Risk's approval.

Vendor is using a Social Security Number? ☐ Yes ☒ No

If Yes, attach the required form per Administrative Procedure 22-73.

Amendment / Revised Award Information

Document Type: _____ Department Code: _____ Contract Number (i.e.,15-123): _____

Amendment No.: _____ AMS Version No.: _____

Effective Date: _____ New Termination Date: _____

Prior Contract No. (Synergen/CMS): _____

○Expense or ○Revenue ○Increase ○Decrease Amount This Amendment: $ _____

Is there revenue included? ○Yes ○No If Yes $ _____

***Funding Source(s) required:**

Funding from General Fund? ○Yes ○No If Yes $ _____ % _____

Grant/Amendment Information (for grants acceptance and awards) ○Award ○Amendment

Document Type: _____ Department Code: _____ Grant Number (i.e.,15-123): _____

Effective Date: _____ Termination Date: _____ Amendment Number: _____

☐ Match Amount: $ _____ ☐ Revenue Amount: $ _____

***All Funding Source(s) required:**

***Match funding from General Fund?** ○Yes ○No **If Yes $** _____ **%** _____

***Match funding from other sources?** ○Yes ○No **If Yes $** _____ **%** _____

***Funding Source:** _____

***If Federal funds are received, is funding coming directly from the Federal government or passed through other organization(s)?** _____

Contact: Jay Hogan / Dee Taskila

Department: Information Technology Department Telephone: 724-2316 / 724-9590

Department Director Signature/Date: Daniel C Hunt 05/09/2019

Deputy County Administrator Signature/Date: 5-13-19

County Administrator Signature/Date: 5/13/19

(Required for Board Agenda/Addendum Items)

PIMA COUNTY INFORMATION TECHNOLOGY DEPARTMENT PROJECT: **LICENSE AGREEMENT** LICENSEE: **ARIZONA PUBLIC SERVICE COMPANY** AMOUNT: **RECIPROCAL NON-EXCLUSIVE** FUNDING: _____	CONTRACT NO. CTN-IT-19-198 AMENDMENT NO. _____ This number must appear on all invoices, correspondence and documents pertaining to this contract. **(STAMP HERE)**

RECIPROCAL NON-EXCLUSIVE TOWER LICENSE
FOR WIRELESS COMMUNICATIONS FACILITIES

This License is entered into between Pima County ("Licensor"), a political subdivision of the State of Arizona, and Arizona Public Service Company ("Licensee"), and is effective upon execution by both parties, and shall terminate five years from the effective date unless sooner terminated or further extended pursuant to the provisions of the License. The parties agree as follows:

1. LICENSE – Licensor hereby grants non-exclusive permission to Licensee to: 1) install, maintain and operate at, and remove from, the PCWIN communications site on Child's Mountain, ("the Site") certain communications equipment ("the Equipment") on the Pima County owned 65 foot Tower with appurtenances; and 2) to continue to own, occupy, and maintain a communications building at the Site under separate lease permit from the U.S. Fish and Wildlife Service (USF&WS). The Tower and Licensee's Equipment and their configuration is, described in **Exhibit A** (Communications Equipment on Pima County Childs Tower), **Exhibit B** (Tower Drawing), and **Exhibit C** (Site Drawing), and **Exhibit D** (Data Sheets) located. The Equipment will consist only of the equipment as described in **Exhibit A, Exhibit B, Exhibit C, and Exhibit D.** The parties will make any modifications to **Exhibit A, Exhibit B, Exhibit C, and Exhibit D,** or additions or changes to the Equipment as described therein only pursuant to a modification of this License pursuant to Paragraph 26.

2. SUITABILITY OF SITE – Licensee has visited and inspected Licensor's Site, accepts the physical condition thereof, and acknowledges that Licensor has made no representations or warranties to Licensee regarding the condition of the Tower, or regarding the suitability thereof for Licensee's use. Licensee is responsible for determining all aspects as to the acceptability and adequacy of the Tower for Licensee's use.

3. INSTALLATIONS – Licensee will submit to Licensor, for Licensor's approval, detailed written plans and specifications as to installation of Equipment on the Licensor's Tower. Licensor will not unreasonably withhold such approval. Licensee will perform installation of the Equipment in accordance with **Exhibit E**, Special Conditions, Facility Rules and Regulations. The parties will make any modifications to **Exhibit E** only pursuant to a modification of this License pursuant to Paragraph 26. Licensor will determine the location at which the Equipment is installed with consideration of the needs of Licensee.

Licensee is solely responsible for ensuring that its Equipment is installed properly on the Tower. Licensor will not be unreasonable in its requirements, said requirements being based on good engineering practices, space utilization, and engineering quality control of the Site Tower and the requirements of Licensor, all as Licensee hereby acknowledges. Licensee will utilize the existing electric circuits at the Site. In the event that Licensee's power requirements exceed the existing capacity or power distribution to them of 100 amperes, 120/240VAC single phase, it will be Licensee's responsibility, with the consent of Licensor and performed according to code, to increase such capacity to meet its needs, provided Licensor consents to such increase in capacity. In the event Licensor does not consent to such an increase in existing capacity within thirty days after the date upon which Licensee makes such request, Licensee may void this License by giving Licensor thirty days' written notice.

4. THIRD-PARTY INSTALLERS Any third-party installer must submit to Licensor a certificate of insurance naming Licensor as an additional insured and protecting itself and Licensor against any and all claims, demands, actions, judgments, costs, expenses, and liabilities that may arise out of or result, directly or indirectly, from its installation of Licensee's equipment at the Site. Such certificate of insurance must specifically indicate that the third-party installer has insurance specifically related to tower work if such installation involves a tower. Licensee is responsible and liable for any and all actions of any third-party installer, and for ensuring that the actions and work of any third-party installer are consistent with Licensee's obligations under this License and the exhibits hereto. Licensor has the right to disapprove any third-party installer. Licensee's sole remedies in the event of such disapproval by Licensor are (i) to seek Licensor's consent to a different installer or subcontractor or (ii) to void this License by giving Licensor thirty days' written notice. Any actions and work by a third-party installer must be done in conformity with all applicable ordinances, codes, and technical standards, at Licensee's expense, and only with the consent of Licensor. Tower climbers must be OSHA certified by the CFRS 1926 standard.

5. INTERFERENCE – Licensee has satisfied itself and hereby warrants that the Equipment is of a type and frequency that will not cause damage to the Site or surrounding property, or cause damage to or interference with electronic or other equipment or radio reception of Licensor or of other tenants of the Site. In the event the Equipment causes such damage or interference, Licensee will cooperate with Licensor in determining the source, and immediately will take all steps necessary to correct and eliminate the interference. If Licensee cannot eliminate such interference within forty-eight hours after receipt of notice from Licensor to Licensee of the existence of such interference, Licensee will discontinue use of any equipment creating said interference (the "Interfering Equipment") by temporarily shutting down the Interfering Equipment (except for such intermittent operation as is necessary for the purpose of testing after the performance of any maintenance, repair, modification, replacement, or other action designed to correct such interference). If Licensee has not corrected such interference within thirty days after receipt of the aforesaid notice, Licensee will remove the Interfering Equipment from the Site after due diligence has been performed by both parties to remedy the interference. In the event that the cause of the interference cannot be pinpointed to a particular piece of equipment or system owned by Licensee, Licensee will shut down all of its suspected Equipment until such time Licensee has correctly identified and resolved the interference problem. If Licensee has not remedied said interference within thirty days after receipt of the aforesaid notice, unless the Parties agree otherwise, Licensee will remove its offending Equipment from the Site within an

additional ten-day period. This License may then terminate without further obligation by either party, except with respect to those obligations then owing or past-due, and except as may otherwise be enumerated specifically herein. Licensor will not be held liable to Licensee for any interruption of service of Licensee or for interference with the operation of Licensee's equipment.

6. COMPLIANCE WITH STATUTES AND REGULATIONS – Licensee's equipment must be installed, operated, and maintained in accordance with the requirements and specifications of all laws, codes, and regulations of all governmental bodies and agencies having any jurisdiction there over, including any rules and/or orders now in effect or that hereafter may be issued by the Federal Communications Commission ("FCC") and/or the United States Environmental Protection Agency ("EPA"), and in compliance with the relevant standards promulgated by the American National Standards Institute ("ANSI") and the obligations imposed by this License and the exhibits hereto. It is Licensee's responsibility to know and conform to these laws, codes, regulations, standards, and requirements, and to obtain all required permits prior to the date of installation of any equipment.

7. SERVICES BY LICENSOR – As a reciprocal consideration for Licensee's payment of electrical services for the Childs Mountain PCWIN communications site as stated in paragraph 15 of this License, Licensor provides Tower space for Licensee appurtenances described in Exhibit A and Exhibit B, a 100 amp electrical panel service to the Licensee communications shelter described in Exhibit C , backup generator power, generator summary alarm contact connections, general site maintenance including generator, landscaping, security, and Site ground plane. In the event that Licensor provides repair, technical, removal, or other services (including but not being limited to legal or engineering services), directly to Licensee, Licensee will reimburse Licensor for expenses and costs incurred by Licensor in the provision of such services.

8. MAINTENANCE OF LICENSEE'S EQUIPMENT – Licensee will, at its own expense, operate and maintain their communications building and any Equipment that it installs on the Site Tower in a safe condition, in good repair, and in a manner suitable to Licensor so as not to conflict with the use of the Site or surrounding areas by Licensor or any other authorized user thereof. Licensee retains control of the 25 foot square area containing Licensee's building and other items within this area as depicted in Exhibit C.

9. RESPONSIBILITY FOR LICENSEE'S EQUIPMENT – Any equipment installed by Licensee remains the property of Licensee. Licensee agrees that Licensor will not bear any responsibility for Licensee's equipment, the operation, care, or security thereof, or the services provided thereby. Licensee further agrees that it has no right to demand that Licensor or its agents or employees alter, maintain, or repair the Site, Licensee's equipment, building, or any other property or equipment, regardless of who might own or otherwise be responsible for such property or equipment. Licensor does not bear any responsibility or liability to Licensee for construction means, techniques, sequences, or procedures in connection with any work performed on the Site or on any other property or equipment either by Licensor or by others. Both parties together may enter into an agreement for Site improvements with expenses identified for both parties.

10. ACCESS – Licensee will have access to the Site at all times as described in **EXHIBIT F** (Access) for the purpose of installing, operating, inspecting, servicing, maintaining, repairing, and removing its equipment. Licensor further grants Licensee a right of access

to the areas where Licensee's connecting equipment is located for the purposes of installing, operating, maintaining, and repairing same. Only authorized engineers, employees, contractors, technicians, third-party installers, subcontractors, and agents of Licensee or the FCC, or persons under Licensee's direct supervision, will be permitted to enter the Site, and then only for the purposes of installing, operating, removing, servicing, repairing, inspecting, or maintaining Licensee's equipment.

11. TERM, RENEWAL, AND TERMINATION – This License runs for a period of five years from the effective date, unless extended or terminated as provided herein.

The License is renewable for three (3) additional five-year periods upon the mutual written agreement of both parties.

In addition to any other termination provisions set forth in this License, Licensee may terminate this License under the following circumstances by providing at least ninety (90) days' written notice to Licensor: (i) in the event the actions or equipment of a third party (*i.e.*, a party other than Licensor, Licensee, or the agents or employees of either) cause interference that results in a measurable diminution in the quality of Licensee's transmission or reception capability and that cannot be remedied after reasonable efforts to do so have been exhausted by Licensee and such third party, (ii) in the event that Licensee's FCC licenses are canceled or not renewed by the FCC through no fault of Licensee, or (iii) in the event that there is any unreasonable change to or denial of Licensee's access to the Site Tower for the purposes of installing, modifying, inspecting, repairing, or removing Licensee's equipment.

Either party may terminate this License at any time with one hundred eighty (180) days' written notice to the other Party.

12. LICENSE FEE – Due to the public safety nature of Licensee's operations, there is no fee associated with this License.

13. ADDITIONAL PAYMENTS – Licensee will pay any sums of money, charges, or other amounts that Licensee is required to pay, whether to Licensor or to any other entity. Such payments include that portion, if any, of any tax (including excise tax), fee, or other assessment attributable to Licensee's use of the Site or to the Site generally.

14. EXCISE TAX – In addition to any other sums due under this License, Licensee will pay to Licensor on or before December 1 of each year during the Term, any property-lease excise tax due under Title 42, Chapter 6, Article 5, Arizona Revised Statutes (A.R.S. § 42-6201, *et seq.*), as may be amended or re-numbered from time to time. Failure to pay any such taxes shall constitute an event of default for which this License may be terminated, and penalties and interest shall accrue as provided by law. If this License is exempt from such excise tax pursuant to A.R.S. § 42-6208, Licensee will keep the information required by A.R.S. § 42-6204. Licensor will calculate the amount of tax on the applicable space and invoice Licensee separately therefor in time to meet the annual payment deadline of December 1.

15. UTILITIES – As a reciprocal consideration where Licensor provides Tower access for services defined in paragraph 7 of this License, Licensee will pay the monthly costs for the 400 amp rated electrical services at the Childs Mountain PCWIN communications site. If this License terminates, and Licensee removes its electrical load from the

Licensor's electrical facilities, Licensor will assume payment for the electrical services provided by the electric utility to the Licensor's facility.

16. INSURANCE – Licensee shall self-insure or carry adequate insurance to protect the parties hereto and Licensor against any and all claims, demands, actions, judgments, costs, expenses, and liabilities that may arise out of or result, directly or indirectly, from Licensee's use of the Site, except such liability as shall arise solely from the negligence of Licensor. Licensee must deliver to Licensor satisfactory proof of self-insurance or the following insurance coverages.

Liability Insurance Coverages – 1. *Commercial General Liability* coverage in an amount not less than $2,000,000.00 per occurrence and aggregate covering the Premises and all activities thereon. 2. *Business Automobile Liability* coverage for owned, non-owned, and hired vehicles with limits in the amount of $1,000,000 combined single limit for vehicles used in the operations at the Premises. 3. *Workers' Compensation (WC)* coverage with the required statutory limits for all persons employed or hired by Licensee to work on the Premises. 4. *Employers Liability* coverage for injury, illness, and ~~or~~ disease. Workers' Compensation coverage is to include a waiver of subrogation. Self-Insurance is acceptable to meet the insurance requirements.

Property Insurance – Business property insurance to include broad form property coverage for Licensee's property with the full replacement cost of all Licensee property and improvements on the Premises. Licensee must furnish to Licensor a Certificate of Insurance documenting proof Builder's Risk/Installation insurance that Licensee, or Licensee's contractor, has obtained. Coverage to include broad form and "all risks" builder's risk/installation policy providing insurance while contractor is installing, repairing or replacing parts on the Tower.

Evidence of Coverage - Licensee shall, during the term of this License, including any renewals and any holding-over thereafter, provide Licensor with written confirmation of self-insurance or current certificates of insurance evidencing that such insurance is in full force and effect. The written confirmation of self-insurance or certificates of insurance as required herein must be presented to Licensor within thirty (30) days of the effective date of this License and on each anniversary date thereof during the term of the License, including any renewals and any holding-over thereafter.

Any modification or variation from the insurance requirements in this License shall be made by the licensing department in consultation with the Division of Risk Management. Such modification will not require a formal License amendment, but may be made by administrative action, and without the consent of Licensee, upon notice by Licensor. Licensee shall supply written confirmation of self-insurance or a certificate of insurance including the modification within thirty (30) days from the date notice of the modification is received by Licensee. Such notice will be given pursuant to the terms of the License; if the License does not specify a notice procedure, Licensor may give notice by Certified U.S. Mail, E-Mail or Facsimile; Certified Receipt, E-Mail Receipt Confirmation or Facsimile Confirmation shall constitute proof of receipt of notice. Failure by Licensee to supply written confirmation of self-insurance or a modified certificate of insurance as required by this paragraph shall constitute material breach by Licensee and grounds for immediate termination of the License by Licensor. Licensee further hereby consents to the addition of the modified insurance requirements to the License.

17. RIGHTS TO EQUIPMENT – During the term of this License, provided that Licensee is not in default hereunder, Licensor shall not claim any interest in, make claim to, or assert any right to Licensee's Equipment. Provided Licensee is not then in default of this License, Licensee may, at its election, have its Equipment removed from the Licensor's Tower on or before the expiration or termination of this License, provided that Licensee will repair any damage caused by said removal. In the case of damage to the Site, Licensee agrees to engage such contractor or contractors as Licensor may require to perform the necessary repairs, and to pay for any such repairs.

Any of Licensee's property remaining on the Tower ninety (90) days after the expiration or notice of non-renewal of this License, becomes the property of Licensor, free of any claim by Licensee or any person claiming through Licensee. At the termination or expiration of the License, Licensee agrees to restore the Tower to its original condition excepting only reasonable wear and tear thereof.

18. HOLDING OVER – Any holding over by Licensee after the expiration of the term hereof without the written consent of Licensor is a tenancy at sufferance, subject to all of the provisions of this License. At all times during any holdover period, Licensor has the unilateral right to terminate this License and to remove Licensee's equipment.

19. INDEMNIFICATION Licensee will indemnify, defend, and hold harmless Licensor and its officers, elected officials, employees, agents, and contractors from and against any and all suits, claims, liabilities, damages and expenses of any kind or character (including, but not limited to reasonable attorneys' fees and expenses incurred in such defense) arising out of the injury or death of any person, damage to any property—including without limitation the Tower, Licensor's equipment, the Site, or surrounding property—or infringement of any property rights, that may be alleged, charged or otherwise asserted in connection with:

a) the installation, operation, removal or maintenance of the Equipment or other equipment installed by Licensee on or about the Site;

b) interference with electronic or other equipment or radio reception to the extent attributable to the Equipment or other Licensee equipment;

c) the failure or alleged failure of Licensee to alter, maintain, or repair the Site, Licensee's equipment, or any other property or equipment, regardless of who might own or otherwise be responsible for such property or equipment;

d) the construction means, techniques, sequences, or procedures used in connection with any work performed on the Site or on any other property or equipment either by Licensor or by others, and

e) any failure or alleged failure to implement or abide by and safety programs.

Licensee's duty to indemnify, defend, and hold harmless Licensor as described in this section extends only to the intentional or negligent acts and/or omissions of Licensee.

This indemnity will survive any termination or expiration of this License.

20. REPAIRS – In addition to the repairs referred to in Paragraph 17, Licensee will repair any damage to the Site that results from or arises through the use or operation of its equipment at the site or the acts or negligence of Licensee or its agents, servants, contractors, or employees. Licensee will accomplish such repairs in a manner and by a contractor satisfactory to Licensor.

21. IMPROVEMENTS TO PREMISES – Licensor reserves the right to implement and utilize improvements in technology or management techniques that will provide for better management and use of the space and capacity of the Site, including (but not limited to) the use of combiners or special antennas. Licensor may, in its discretion, require Licensee to incorporate such improvements into such systems as Licensee has installed and is operating on the Tower. Licensee will, within 270 days of its receipt of Licensor's written demand to do so, either (i) incorporate such improvements or (ii) give written notice of its intention to terminate this License upon the expiration of thirty days from the date of Licensor's receipt of such notice.

22. COORDINATION OF OPERATION – Licensor will make reasonable efforts to give Licensee advance notice (except in the case of emergency where advance notice cannot reasonably be given) of any planned shut downs for routine maintenance, and of any repairs, alterations, additions, or improvements to the Site that might materially affect the operation of Licensee's facilities and Equipment at the Site. Licensor will make reasonable efforts to minimize any inconvenience, loss, or expense to Licensee arising therefrom, but is not liable to Licensee or any of Licensee's customers for any such inconvenience, loss, or expense suffered by Licensee or Licensee's customers.

23. CASUALTY – In the event there is a total destruction of the Site by fire or other casualty, and the Site cannot, in Licensor's estimation (which estimation shall be made within ten days from the date of such casualty), reasonably be restored within ninety days from the date of such casualty, or if Licensor chooses not to undertake such restoration, this License will terminate automatically upon the expiration of the ten-day period following the casualty, unless the parties otherwise agree. In the event of damage to the Site by casualty comprising less than a total destruction thereof, Licensee may terminate this License upon thirty days' written notice to Licensor if Licensor (i) chooses not to undertake, (ii) has not completed, or (iii) cannot reasonably be expected to complete the restoration of the Site within three months from the date of such casualty. If any casualty occurs during the last year of the term of this License or any renewal term thereof, Licensee may terminate the License upon thirty days' written notice to Licensor provided such notice is given within sixty days after the date of such casualty.

24. CONDEMNATION – In the event the Site or any significant portion thereof is condemned or otherwise subjected to a taking by any governmental authority exercising the power of eminent domain, unless Licensor and Licensee are permitted to continue their operations at the Site, this License will terminate as of the date upon which Licensor or Licensee are required by the governmental authority to cease their operation(s) at the Site. Licensee is entitled to seek its own award against the governmental authority only if such award will not result in a diminution of Licensor's award.

25. DEFAULT – In the event Licensee fails to comply with any of the provisions of this License or the exhibits hereto, or defaults in any of its obligations hereunder, Licensor may, at its option, terminate this License provided Licensor has given Licensee written notice of such default and Licensee has failed to cure the same within thirty (30) days

after receipt of such notice. Where, in Licensor's sole judgment, Licensee cannot reasonably cure such default within such thirty-day period, Licensor will extend the time to cure such default for such period of time, not to exceed sixty days, as may be necessary to complete such cure, provided that Licensee must proceed promptly to cure the same and pursue such cure with all due diligence.

Licensor will not, except in an emergency, undertake to cure any default by Licensee until after the expiration of Licensee's time to cure such default as provided herein. Licensee will reimburse Licensor for any expenses Licensor incurs in curing any default by Licensee.

In the event the default is non-payment of the License Fee by Licensee, Licensor will give notice to Licensee via hand delivery, overnight mail, electronic mail, or certified United States Mail of non-receipt of payment. In the event Licensee fails to make full payment of the License Fee then due within fifteen days from the date of delivery of such notice to Licensee, Licensor will have the right to disconnect, remove, and store Licensee's equipment. All costs and expenses incurred by Licensor in connection with such disconnection, removal, and storage will be reimbursed by Licensee. Such reimbursement by Licensee does not relieve Licensee of its obligation to pay the License Fees in default together with any additional expenses incurred by Licensor in connection with the collection thereof. The rights and remedies of Licensor described in this Section 25 and elsewhere in this License are not exhaustive and are in addition to any other rights or remedies that may exist now or in the future, at law or equity. Licensee will indemnify, release, defend, and hold harmless Licensor against all losses, costs (including reasonable attorneys' fees), damages, expenses, claims, demands, or liabilities arising out of or caused by, or alleged to have arisen out of or been caused by, the disconnection or removal by Licensor of Licensee's equipment pursuant to this Section 25, or for any resulting impairment to or interruption of Licensee's services or operation.

The rights and remedies of Licensor described in this Section 25 and elsewhere in this License are not exhaustive and are in addition to any other rights or remedies that may exist now or in the future, at law or equity.

Any three defaults by Licensee within a twelve-month period will be cause for termination of this License by Licensor without the extension of any cure period to Licensee.

26. MODIFICATIONS – Any addition, variation, or modification to this License is void and ineffective unless made in writing and signed by an authorized representative of each party.

27. PARTIES BOUND BY AGREEMENT – Subject to the provisions hereof, this License extends to and binds the heirs, executors, administrators, successors, and assigns of the parties hereto.

28. ASSIGNMENT – Without Licensor's written consent, Licensee does not have the right to assign this License, or to sublicense all or any part of its rights or obligations hereunder.

29. AUTHORITY TO SIGN – Licensee represents that the individual signing this License on behalf of Licensee presently has and will maintain full authority to enter into this License

and to bind and obligate Licensee to the terms, rights, and obligations under this License.

30. NOTICES – All notices sent pursuant to this License must be in writing and sent to the other party at the following addresses, either by hand delivery, overnight mail, or Certified U.S. Mail, return-receipt requested:

Licensor:
Pima County
Information Technology Department
Attn: Contract Administrator
33 N Stone Ave., 14th floor
Tucson, Arizona 85701
(520) 724-9590
contract.administrator@pima.gov

Licensee:
Arizona Public Service Company
P.O. Box 53933, Mail Stop 3809
Phoenix, AZ 85072-3933
ATTN: Director of IT Operations & Infrastructure

31. CAPTIONS – Any captions in this License are inserted only as a matter of convenience and for reference, and in no way define, limit, or describe the scope of this License or the intent of any provision thereof.

32. COMPLIANCE WITH LAWS – In the performance of its obligations under this License, Licensee will comply with all applicable federal, state, and local laws, rules, ordinances, regulations, standards, and Executive Orders. The laws and regulations of the State of Arizona govern the rights of the parties, the performance of this License, and any disputes hereunder. Any legal action relating to this License must be brought in an Arizona Court, in Pima County, Arizona. Any changes in the governing laws, rules, and regulations during the term of this License apply, but do not require an amendment hereof.

33. NON-DISCRIMINATION – Licensee agrees to comply with all provisions and requirements of Arizona Executive Order 2009-09 which is hereby incorporated into this contract as if set forth in full herein including flow down of all provisions and requirements to any subcontractors. During the performance of this contract, Licensee will not discriminate against any employee, client or any other individual in any way because of that person's age, race, creed, color, religion, sex, disability or national origin.

34. LICENSEE HAS NO INTEREST OR ESTATE – Licensee agrees that it has no claim, interest, or estate at any time in the Licensor's Tower by virtue of this License or its use hereunder. Upon termination of this License, Licensee will have no right of entry into or upon the Tower, except for accessing its own separately-permitted USF&WS site which is within the Site fence boundary of Licensor. Under these conditions, the Licensor's Site fence boundary shall be modified to exclude Licensee's permitted right of way and access in accordance with Exhibit C

35. CONFLICT OF INTEREST – This Agreement is subject to the provisions of Arizona Revised Statutes section 38-511.

36. FORCE MAJEURE – Neither of the parties hereto is responsible for damages due to delay that is the result of a contingency beyond the reasonable control of either party, including, but not limited to, acts of nature, pestilence, strikes, embargoes, lockouts, boycotts, civil disturbance and disobedience, riots, war, revolution, acts of government, world shortage of qualified materials, accidents, fires, or floods. Upon the occurrence of such an event, the duties and obligations of the parties hereto will be suspended for so long as the event prevents proper performance under this License. However, if such suspension continues in excess of ninety days, the parties will meet and attempt to arrive at a mutually acceptable compromise within the spirit and intent of this License. In the absence of such compromise, this License will terminate.

37. ENTIRE AGREEMENT/SEVERABILITY – This document constitutes the entire agreement between the parties pertaining to the subject matter hereof, and all prior or contemporaneous agreements and understandings, oral or written, hereby are superseded and merged herein. This License may be modified, amended, altered, or extended only by a written amendment signed by the parties.

If any provision herein is deemed invalid, it will be deleted from this License and will not serve to invalidate the remaining provisions of this License to the fullest extent possible.

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IN WITNESS WHEREOF, the parties have executed this License.

PIMA COUNTY

Richard Elías, Chairman
Board of Supervisors

Date

ATTEST

Julie Castaneda, Clerk of the Board

Date

APPROVED AS TO FORM

Chris Straub, Deputy County Attorney

5-3-2019
Date

ARIZONA PUBLIC SERVICE COMPANY

Melanie Stuckenberg
Director of IT Operations & Infrastructure

04/26/19
Date

APPROVED AS TO CONTENT

Dan Hunt, Chief Information Officer
Information Technology Department

05-09-2019
Date

EXHIBIT A
COMMUNICATIONS EQUIPMENT ON PIMA COUNTY CHILDS MOUNTAIN TOWER

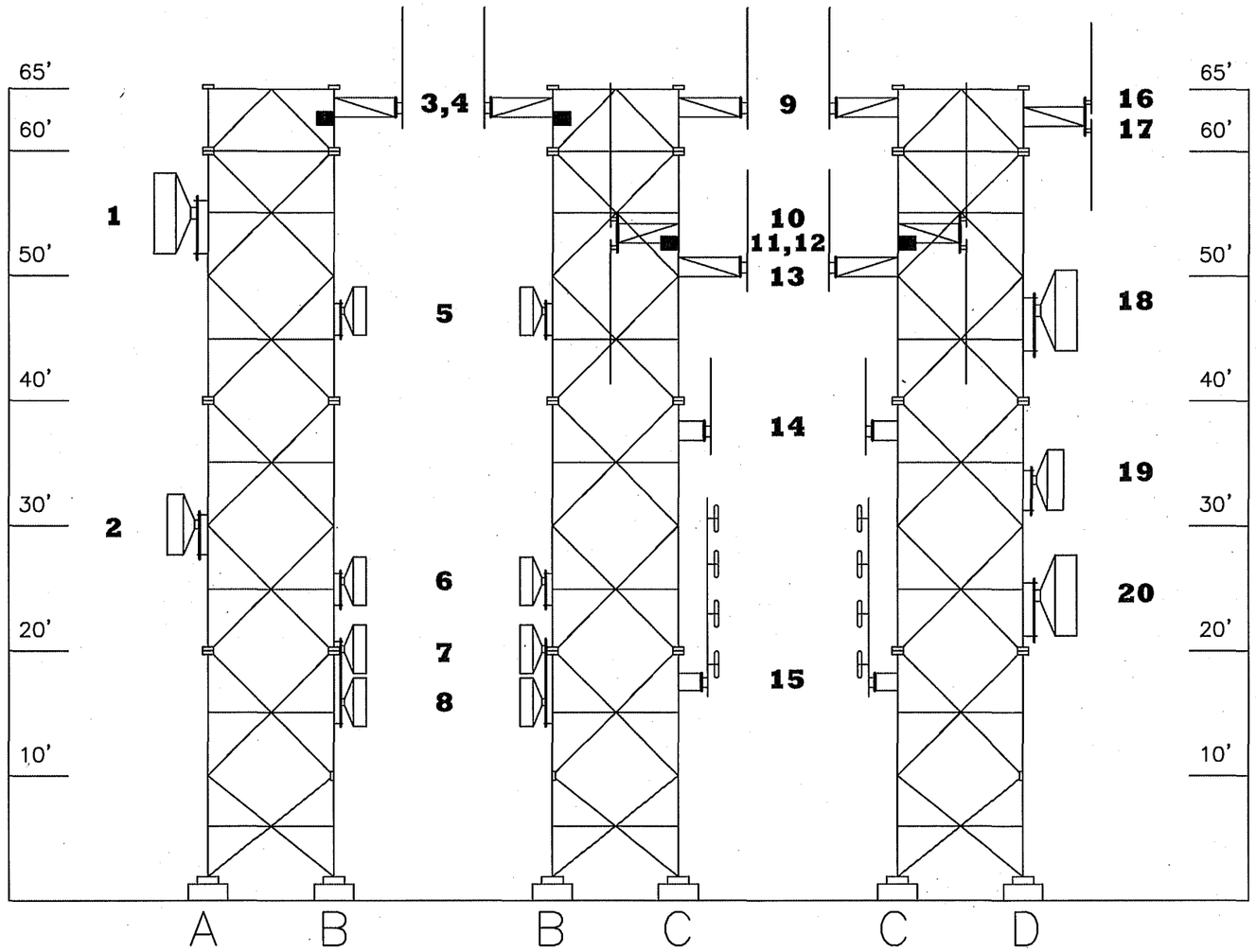
(3)Transmitters licensed by FCC to operate between (854 - 858) MHz. Call Sign WPFF525
(3) Receivers to operate between (810 - 813) MHz.
(1) Microwave Radio (Space Diversity) to operate on 6165.1 MHz (V) Tx, 6417.14MHz (V) Rx. Call Sign WQNS390.
(2) Transmitters licensed by FCC to operate between (928-960) MHz. Call Sign WPST347

Effective Radiated Power radiated by the transmit antennas will be (Wattage) watts. See table below.

Licensee has installed the following antenna(s):

	Qty	Type	Make	Model No	Size	Height	Diameter	FeedLine	ERP
1	1	Omni	dbSpectra	DS8A09F36 U-D	12.2'	66' tip	3"	½" to TTA (Rx)	N/A
2	1	Omni	dbSpectra	DS8A09F36 U-D	12.2'	52' tip	3"	1-5/8" Tx Line	355 W
3	1	Omni	dbSpectra	DS9A06F36 U-N	6.7'	46' tip	3"		20 W
4	1	Dish (Main)	Andrew	PARX8-59W	8'	55' C/L	8'	EW63	67.7 dBm
5	1	Dish (Diversity)	Andrew	PARX6-59W	6'	30' C/L	6'	EW63	67.7 dBm
6	1	TTA	dbSpectra	DS8TMD-10	9"W x 21.25 "H x 13.25 "D	53' C/L	N/A	7/8" Rx Line, ½" Test Line	N/A

EXHIBIT B – TOWER DRAWING



GENERAL NOTES:

1. ANTENNA HEIGHTS ARE MEASURED FROM BASE.
2. DISH, PANEL, & YAGI HEIGHTS ARE MEASURED FROM CENTERLINE.

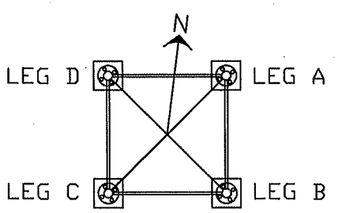
	REV.
1	03-29-18 APSC RENEWAL

	ANTENNA #	LEG	ELEVATION	OWNER	ANTENNA TYPE
REV 1	1	A	55 FEET	APSC	8' DISH
REV 1	2	A	30 FEET	APSC	6' DISH

ANTENNA #	LEG	ELEVATION	OWNER	ANTENNA TYPE
3	B	63 FEET	PCWIN	10' WHIP
4	B	63 FEET	PCWIN	TOWER TOP AMP
5	B	47 FEET	GOVNET	4' DISH
6	B	26 FEET	PCITD	3' DISH
7	B	21 FEET	GOVNET	4' DISH
8	B	16 FEET	GOVNET	4' DISH

	ANTENNA #	LEG	ELEVATION	OWNER	ANTENNA TYPE
	9	C	63 FEET	PCWIN	10' WHIP
REV 1	10	C	54 FEET	APSC	12' WHIP
REV 1	11	C	52 FEET	APSC	12' DOWN WHIP
REV 1	12	C	52 FEET	APSC	TOWER TOP AMP
	13	C	50 FEET	PCWIN	10' WHIP
REV 1	14	C	39 FEET	APSC	6' WHIP
	15	C	18 FEET	PCSD	18' DIPOLE

ANTENNA #	LEG	ELEVATION	OWNER	ANTENNA TYPE
16	D	63 FEET	EPNGC	10' WHIP
17	D	61 FEET	EPNGC	8' WHIP
18	D	47 FEET	GOVNET	8' DISH
19	D	34 FEET	PCITD	4' DISH
20	D	24 FEET	PCITD	8' DISH



TOWER ORIENTATION

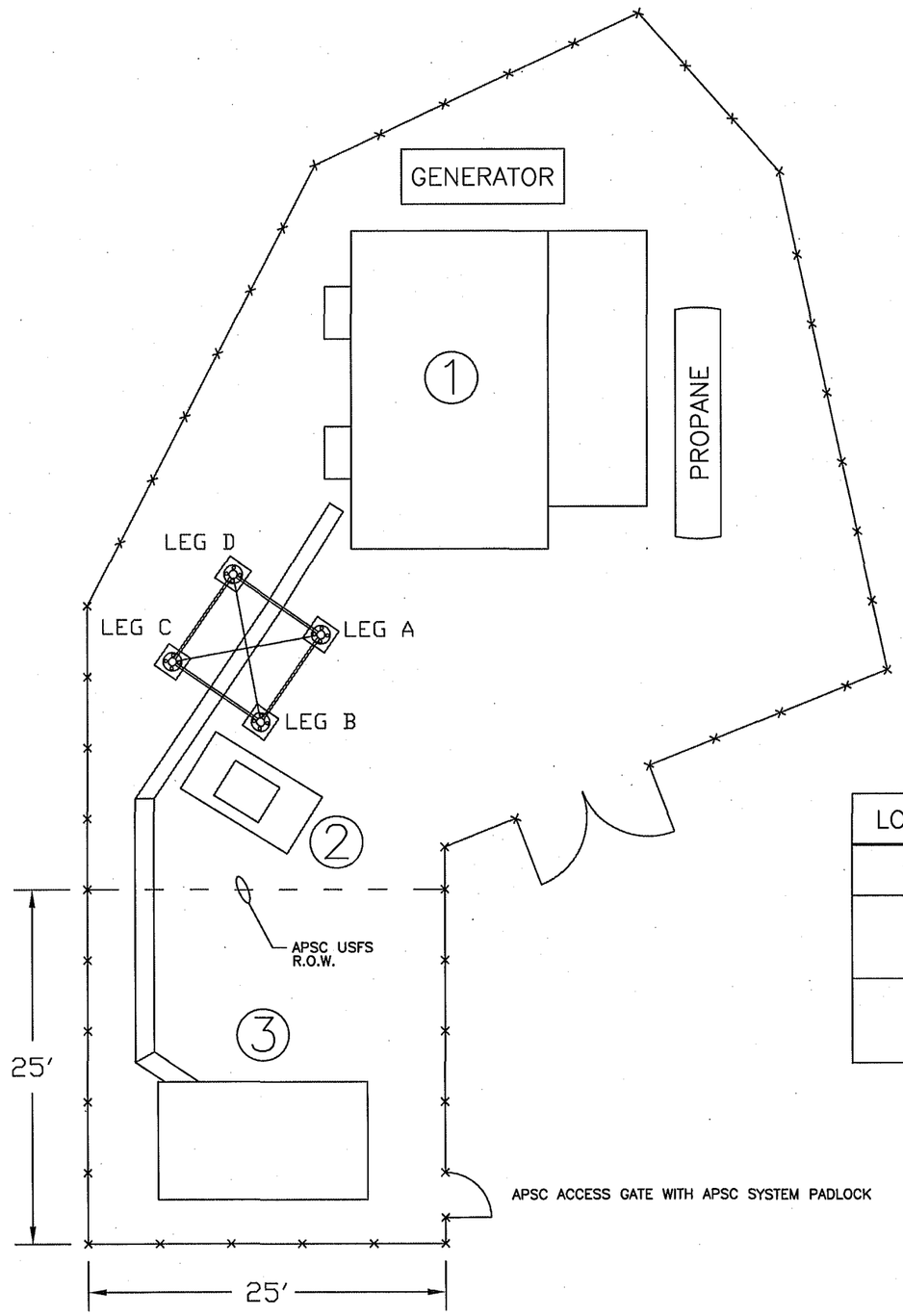
PIMA COUNTY INFORMATION TECHNOLOGY

TITLE:
EXHIBIT B – TOWER DRAWING
ARIZONA PUBLIC SERVICE COMPANY (APSC)
CHILDS MOUNTAIN AGREEMENT

DRAWN BY: JH	SIZE: B	TOWER MANUFACTURER–DATE: VALMONT–MARCH 2008	FILE NAME: CHILDS TOWER OEM 071417
CHECKED BY: CB			
CHECKED BY:	SCALE: NONE	DATE: SEE REV BLOCK	SHEET: 1 OF 1

EXHIBIT C–SITE DRAWING

	REV.
1	09–18–18 APSC REVISION



LOCATION	OWNER	STRUCTURE TYPE/SIZE
①	PIMA COUNTY ITD	12' X 22' SHELTER
②	GOVNET	5' X 10' RAISED PLATFORM WITH CABINET
③	APSC	8' X 15' BUILDING WITH 25 FT. SQ U.S.F.W.S. R.O.W

NORTH

PIMA COUNTY
INFORMATION TECHNOLOGY

TITLE:
EXHIBIT C–SITE DRAWING
ARIZONA PUBLIC SERVICE COMPANY (APSC)
CHILDS MOUNTAIN AGREEMENT

DRAWN BY: JH	SIZE: B	FILE NAME: CM SITE REV 1 091818	
CHECKED BY: CB			
CHECKED BY:	SCALE: NONE	DATE: SEE REV BLOCK	SHEET: 1 OF 1

900 MHz Antennas

896-960 MHz
Omni Fiberglass

dbSpectra

ELECTRICAL SPECIFICATIONS

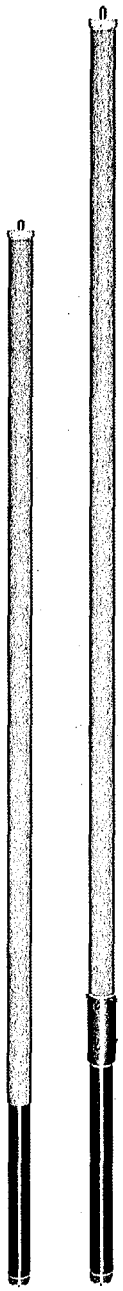
• **Connector Type:** N-Female • **VSWR:** 1.5:1 • **Polarization:** Vertical

MODEL WITH N-FEMALE	TYPE	FREQ MHZ	GAIN DB	HORIZONTAL BEAMWIDTH DEG	ELEVATION BEAMWIDTH DEG	BEAM TILT DEG	MAX POWER INPUT WATTS	MODEL WITH 7/16 DIN
DS9A03F36D-N	Omni	896-960	3	360	30	Zero	500	None
DS9A06F36U-N	Omni	896-960	6	360	16	Zero	500	DS9A06F36U-D
DS9A09F36U-N	Omni	896-960	9	360	8	Zero	500	DS9A09F36U-D
DS9A10F36U-N	Omni	896-960	10	360	6	Zero	500	DS9A10F36U-D
DS9A12F36U-N	Omni	896-960	12	360	3	Zero	500	DS9A12F36U-D
DS9A06F36D-N	Dual Omni	896-960	6	360	16	Zero	350	None
DS9A06F36T-N	Triple Omni	896-960	6	360	16	Zero	250	None
DS9A06F36U3N	3° Downtilt Omni	896-960	6	360	16	3° Down	500	DS9A06F36U3D
DS9A06F36U6N	6° Downtilt Omni	896-960	6	360	16	6° Down	500	DS9A06F36U6D
DS9A09F36D-N	Dual Omni	896-960	9	360	8	Zero	350	None
DS9A09F36U3N	3° Downtilt Omni	896-960	9	360	8	3° Down	500	DS9A09F36U3D
DS9A09F36U6N	6° Downtilt Omni	896-960	9	360	8	6° Down	500	DS9A09F36U6D
DS9A10F36U3N	3° Downtilt Omni	896-960	10	360	3° Down	3° Down	500	DS9A10F36U3D
DS9A10F36U6N	6° Downtilt Omni	896-960	10	360	6° Down	6° Down	500	DS9A10F36U6D

MECHANICAL SPECIFICATIONS

• **Color:** Blue • **Radome Material:** Fiberglass • **Hardware:** Galvanized Steel

MODEL WITH N-FEMALE	LENGTH IN/MM	RADOME O.D. IN/MM	MAST O.D. IN/MM	NET WEIGHT LBS/KG	FLAT PLATE FT^2/M^2	MAX WIND SPEED MPH/KMH	HARDWARE PN	MODEL WITH 7/16 DIN
DS9A03F36D-N	99 / 2514.6	3 / 76.2	3.2 / 81.3	18 / 8.2	1.38 / 0.13	225 / 362.1	DSH2V3R	None
DS9A06F36U-N	99 / 2514.6	3 / 76.2	3.2 / 81.3	18 / 8.2	1.38 / 0.13	225 / 362.1	DSH2V3R	DS9A06F36U-D
DS9A09F36U-N	150 / 3810.0	3 / 76.2	3.2 / 81.3	30 / 13.6	2.08 / 0.19	200 / 321.9	DSH3V3N	DS9A09F36U-D
DS9A10F36U-N	180 / 4572.0	3 / 76.2	3.2 / 81.3	38 / 17.2	2.50 / 0.23	200 / 321.9	DSH3V3N	DS9A10F36U-D
DS9A12F36U-N	295 / 7493.0	3 / 76.2	3.2 / 81.3	75 / 34.0	4.10 / 0.38	150 / 241.4	DSH3V3N	DS9A12F36U-D
DS9A06F36D-N	170 / 4318.0	3 / 76.2	3.2 / 81.3	50 / 22.7	2.36 / 0.22	200 / 321.9	DSH3V3N	None
DS9A06F36T-N	250 / 6350.0	3 / 76.2	3.2 / 81.3	75 / 34.0	3.47 / 0.32	150 / 241.4	DSH3V3N	None
DS9A06F36U3N	92 / 2336.8	3 / 76.2	3.2 / 81.3	25 / 11.3	1.28 / 0.12	225 / 362.1	DSH2V3R	DS9A06F36U3D
DS9A06F36U6N	92 / 2336.8	3 / 76.2	3.2 / 81.3	25 / 11.3	1.28 / 0.12	225 / 362.1	DSH2V3R	DS9A06F36U6D
DS9A09F36D-N	253 / 6426.2	3 / 76.2	3.2 / 81.3	76 / 34.5	3.51 / 0.33	150 / 241.4	DSH3V3N	None
DS9A09F36U3N	150 / 3810.0	3 / 76.2	3.2 / 81.3	30 / 13.6	2.08 / 0.19	200 / 321.9	DSH3V3N	DS9A09F36U3D
DS9A09F36U6N	150 / 3810.0	3 / 76.2	3.2 / 81.3	30 / 13.6	2.08 / 0.19	200 / 321.9	DSH3V3N	DS9A09F36U6D
DS9A10F36U3N	180 / 4572.0	3 / 76.2	3.2 / 81.3	38 / 17.2	2.50 / 0.23	200 / 321.9	DSH3V3N	DS9A10F36U3D
DS9A10F36U6N	180 / 4572.0	3 / 76.2	3.2 / 81.3	38 / 17.2	2.50 / 0.23	200 / 321.9	DSH3V3N	DS9A10F36U6D



*** Can be inverted by reversing drain plugs.**

Images are for illustrative purposes only. Images are not a representation of all models listed.

dbSpectra
1590 E. Highway 121, Building A • Lewisville, Texas 75056
Ph: 469.322.0080 • Fax: 469.322.0079 • www.dbspectra.com

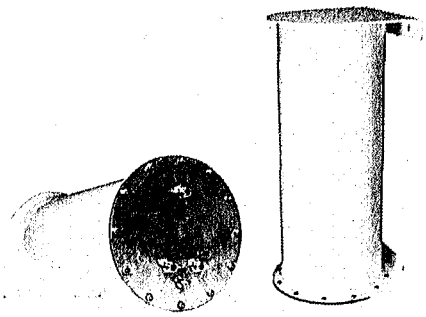
nqa ISO 9001 Registered — ANAB Accredited

06-2009
Rev. 2

DS7TMA(D) / DS8TMA(D) Series
Dual Amp Tower Top Amplifier System (700/800 MHz)

dbSpectra

ELECTRICAL SPECIFICATIONS	
Frequency Range	See Ordering Information
TTA Gain (typical)	21 dB
TTA System Noise Figure (typical)	3 dB
System Input IP3	+15 dBm min
Return Loss (typical)	14 dB
Test Port Coupling (typical)	30 dB
Power Supply Input (nominal)	18 and 24 VDC
Operating Current (typical)	600 mA
Surge Suppression	18 KA ANSI C62.1, 8/20 waveform, 110 joules
LNA SPECIFICATIONS	
Type	Quadrature Coupled Redundant Amps (A & B)
Dual Redundancy	Two independent amps with automatic backup amplifier switching
Amplifier Bypass	Automatic or manual bypass of amps in case of amp alarms or power failure
LNA Gain	30 dB
LNA Noise Figure	0.8 dB
FILTER SPECIFICATIONS	
Filter Bandwidth	See Frequency Range in Ordering Information
Filter Isolation	> 120 dB @ 851-869 MHz and 763-776 MHz
MECHANICAL SPECIFICATIONS	
Construction	Aluminum; **OPTIONAL:** SS304 Stainless 11 gauge with 0.120" thickness
Environmental / Finish	Weatherproof canister, UV protected, powder coat white
RX Antenna Connector	TMA models – N (F); TMD models – DIN (F)
RX Output Connector	TMA models – N (F); TMD models – DIN (F)
Test Port Input Connector	TMA models – N (F); TMD models – DIN (F)
Temperature Range	-30° C to +60° C
Mounting Hardware	DB380 clamps for up to 3.5" OD pipe
DIMENSIONS	
Width	9 in (228.6 mm)
Height	21.25 in (539.75 mm)
Depth	13.25 in (336.55 mm)
Weight (Aluminum Enclosure)	21 lbs (9.5 kg)
Weight (Stainless Steel Enclosure)	45 lbs (20.5 kg)



FEATURES AND BENEFITS

- Dual redundant quadrature coupled LNAs
- Automatic bypass of LNA in event of LNA alarm condition or loss of power
- Provides more than 120 dB of isolation at the 700 and 800 MHz TX carrier bands. Prevents high level carriers from entering the receive system to ensure optimum receive sensitivity performance
- Narrowband frequency models available to further protect receivers
- Heavy duty weatherproof aluminum enclosure. SS304, 11 gauge stainless steel option available
- Test port standard for accurate RX sensitivity testing

ORDERING INFORMATION

Model with N (F) connectors*	Model with DIN (F) connectors*	Frequency Range
DS7TMA31	DS7TMD31	793-824 MHz
DS7TMA-17	DS7TMD-17	799-816 MHz
DS7TMA-6	DS7TMD-6	799-805 MHz
DS8TMA-10	DS8TMD-10	806-816 MHz
DS8TMA-3	DS8TMD-3	806-809 MHz

*Optional Stainless Steel Enclosure Available. (Add "-S" to end of model number)

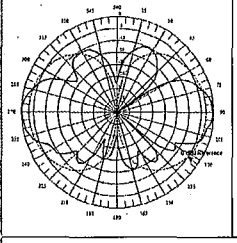
dbSpectra

800 MHz Omni Antennas (806-869 MHz)

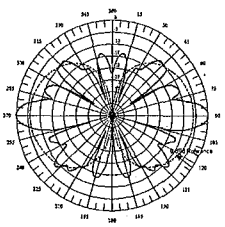
	806-869 MHz																	
Model Number	DS8A03F36U-N	DS8A03F36U-D	DS8A06F36U-N	DS8A06F36U-D	DS8A09F36U-N	DS8A09F36U-D	DS8A10F36U-N	DS8A10F36U-D	DS8A12F36U-N	DS8A12F36U-D	DS8A06F36D-N	DS8A06F36D-D	DS8A09F36D-N	DS8A09F36D-D	DS8A03F36T-N	DS8A03F36T-D	DS8A06F36T-N	DS8A06F36T-D
Input Connector	N(F)	7/16 DIN	N(F)	7/16 DIN	N(F)	7/16 DIN	N(F)	7/16 DIN	N(F)	7/16 DIN	N(F)	7/16 DIN	N(F)	7/16 DIN	N(F)	7/16 DIN	N(F)	7/16 DIN
Type	Single		Single		Single		Single		Single		Dual		Dual		Triple		Triple	
ELECTRICAL																		
Bandwidth, MHz	63		63		63		63		63		63		63		63		63	
Power, Watts	500		500		500		500		500		350		350		250		250	
Gain, dBd	3		6		9		10		12		6		9		3		6	
Horizontal Beamwidth, degrees	360		360		360		360		360		360		360		360		360	
Vertical Beamwidth, degrees	30		16		8		6		3		16		8		30		16	
Beam Tilt, degrees	0		0		0		0		0		0		0		0		0	
Isolation (minimum), dB	N/A		N/A		N/A		N/A		N/A		40		40		40		40	
MECHANICAL																		
Number of Connectors	1		1		1		1		1		2		2		3		3	
Flat Plate Area, $ft^2(m^2)$	0.24 (0.02)		1.53 (0.14)		2.43 (0.23)		2.88 (0.27)		4.43 (0.41)		2.27 (0.21)		4.22 (0.39)		2.4 (0.73)		3.47 (0.32)	
Lateral Windload Thrust, lbf(N)	11 (48)		57 (254)		91 (406)		108 (480)		166 (738)		85 (378)		158 (703)		89 (394)		89 (394)	
Survival Wind Speed																		
without ice, mph(kph)	437 (703)		215 (346)		135 (217)		120 (193)		75 (121)		150 (241)		80 (129)		134 (216)		134 (216)	
with 0.5" radial ice, mph(kph)	319 (513)		190 (306)		120 (193)		100 (161)		60 (97)		125 (201)		68 (109)		104 (167)		104 (167)	
Mounting Hardware included	DSH2V3R		DSH2V3R		DSH3V3R		DSH3V3N		DSH3V3N		DSH3V3R		DSH3V3N		DSH2V3R		DSH3V3N	
DIMENSIONS																		
Length, ft(m)	2.9 (0.9)		7.6 (2.3)		12.2 (3.7)		14.5 (4.4)		22.3 (6.8)		11.4 (3.5)		21.2 (6.5)		TBD		15.9 (4.9)	
Radome O.D., in(cm)	2 (5.1)		3 (7.6)		3 (7.6)		3 (7.6)		3 (7.6)		3 (7.6)		3 (7.6)		3 (7.6)		3 (7.6)	
Mast O.D., in(cm)	2.5 (6.4)		2.5 (6.4)		2.5 (6.4)		2.5 (6.4)		2.5 (6.4)		2.5 (6.4)		2.5 (6.4)		2.5 (6.4)		2.5 (6.4)	
Net Weight w/o bracket, lb(kg)	5.5 (2.5)		19 (8.6)		36 (16.3)		41 (18.6)		63 (28.6)		31 (14.1)		52 (23.6)		37 (16)		44 (20)	
Shipping Weight, lb(kg)	9.6 (4.4)		39 (17.7)		66 (29.9)		71 (32.2)		93 (42.2)		61 (27.7)		82 (37.2)		TBD		74 (33.6)	

VERTICAL PATTERNS

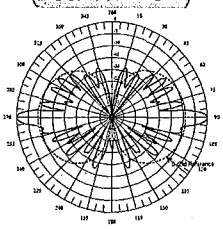
DS8A03F36U-N
DS8A03F36U-D



DS8A06F36U-N
DS8A06F36U-D



DS8A09F36U-N
DS8A09F36U-D



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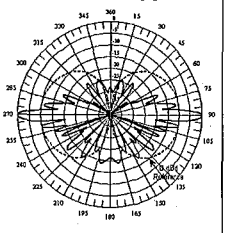
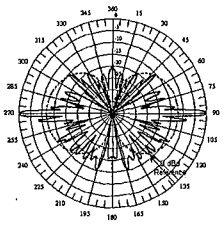
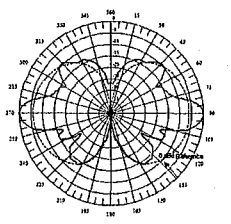
DS8A10F36U-D



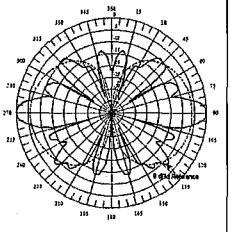
DS8A12F36U-N
DS8A12F36U-D



DS8A06F36D-N
DS8A06F36D-D

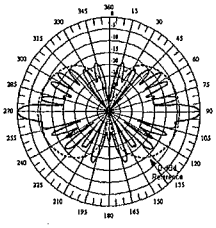


Top



Bottom

DS8A09F36D-N
DS8A09F36D-D



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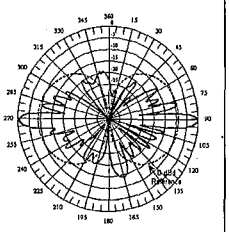
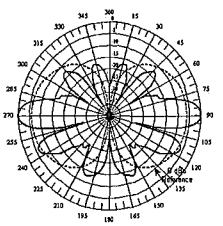


Bottom

DS8A06F36T-N
DS8A06F36T-D



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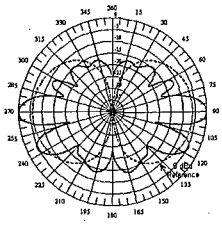


Bottom

800 MHz Omni Antennas (806-869 MHz)

	806-869 MHz							
Model Number	DS8A06F36U3N	DS8A06F36U3D	DS8A09F36U3N	DS8A09F36U3D	DS8A09F36U6N	DS8A09F36U6D	DS8A10F36U3N	DS8A10F36U3D
Input Connector	N(F)	7/16 DIN	N(F)	7/16 DIN	N(F)	7/16 DIN	N(F)	7/16 DIN
Type	Beamtilt		Beamtilt		Beamtilt		Beamtilt	
Bandwidth, MHz	63		63		63		63	
Power, Watts	500		500		500		500	
Gain, dBd	6		9		9		10	
Horizontal Beamwidth, degrees	360		360		360		360	
Vertical Beamwidth, degrees	16		8		8		6	
Beam Tilt, degrees	3 Down		3 Down		6 Down		3 Down	
Isolation (minimum), dB	N/A		N/A		N/A		N/A	
Number of Connectors	1		1		1		1	
Flat Plate Area, $ft^2(m^2)$	1.53 (0.14)		2.24 (0.21)		2.24 (0.21)		2.57 (0.24)	
Lateral Windload Thrust, lbf(N)	57 (254)		84 (374)		84 (374)		97 (429)	
Survival Wind Speed								
without ice, mph(kph)	215 (346)		150 (241)		150 (241)		125 (201)	
with 0.5" radial ice, mph(kph)	190 (306)		130 (209)		130 (209)		110 (177)	
Mounting Hardware included	DSH2V3R		DSH3V3R		DSH3V3R		DSH3V3R	
Length, ft(m)	7.6 (2.3)		11.3 (3.4)		11.3 (3.4)		12.9 (3.9)	
Radome O.D., in(cm)	3 (7.6)		3 (7.6)		3 (7.6)		3 (7.6)	
Mast O.D., in(cm)	2.5 (6.4)		2.5 (6.4)		2.5 (6.4)		2.5 (6.4)	
Net Weight w/o bracket, lb(kg)	19 (8.6)		30 (13.6)		30 (13.6)		38 (17.2)	
Shipping Weight, lb(kg)	39 (17.7)		60 (27.2)		60 (27.2)		68 (30.8)	

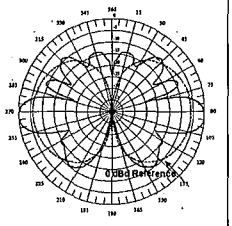
ELECTRICAL

MECHANICAL

DIMENSIONS

VERTICAL PATTERNS

DS8A06F36U3N
DS8A06F36U3D



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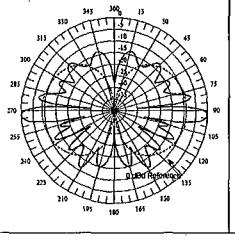

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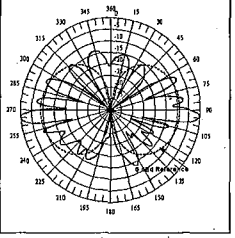

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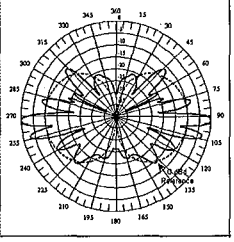

Product Specifications

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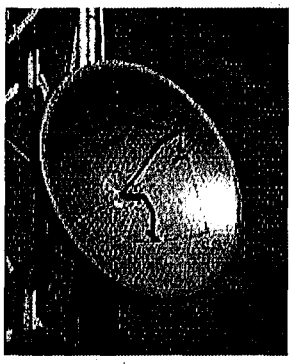

PARX6-59W-PXA/A

1.8 m | 6 ft Parabolic Unshielded Antenna for Relocation-Category A, dual-polarized, 5.925–7.125 GHz, CPR137G, gray antenna, molded gray radome with flash, standard pack—one-piece reflector

General Specifications

Packing	Standard pack
Radome Color	Gray
Radome Material	Molded
Reflector Construction	One-piece reflector
Antenna Input	CPR137G
Antenna Color	Gray
Antenna Type	PARX - Parabolic Unshielded Antenna for Relocation-Category A, dual-polarized
Diameter, nominal	1.8 m | 6 ft
Flash Included	Yes
Polarization	Dual

Electrical Specifications

Beamwidth, Horizontal	1.8 °
Beamwidth, Vertical	1.8 °
Cross Polarization Discrimination (XPD)	30 dB
Electrical Compliance	ETSI Class 2 | US FCC Part 101A | US FCC Part 74B
Front-to-Back Ratio	59 dB
Gain, Low Band	37.8 dBi
Gain, Mid Band	38.3 dBi
Gain, Top Band	38.7 dBi
Operating Frequency Band	5.925 – 7.125 GHz
Radiation Pattern Envelope Reference (RPE)	4371
Return Loss	24.9 dB
VSWR	1.12

Mechanical Specifications

Fine Azimuth Adjustment	±15°
Fine Elevation Adjustment	±20°
Mounting Pipe Diameter	115 mm | 4.5 in
Net Weight	99 kg | 218 lb
Side Struts, Included	1 inboard
Side Struts, Optional	1 inboard
Wind Velocity Operational	110 km/h | 68 mph

Wind Velocity Survival Rating	200 km/h | 124 mph

Wind Forces At Wind Velocity Survival Rating

Angle α for MT Max	-130 °
Axial Force (FA)	8779 N | 1974 lbf
Side Force (FS)	1946 N | 437 lbf
Twisting Moment (MT)	3826 N•m
Weight with 1/2 in (12 mm) Radial Ice	150 kg | 331 lb
Zcg with 1/2 in (12 mm) Radial Ice	347 mm | 14 in
Zcg without Ice	278 mm | 11 in

Product Specifications

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on the go

PARX6-59W-PXA/A

Wind Forces At Wind Velocity Survival Rating Image

Packed Dimensions

Gross Weight, Packed Antenna	308.0 kg | 679.0 lb
Height	2100.0 mm | 82.7 in
Length	2070.0 mm | 81.5 in
Volume	3.8 m³
Width	880.0 mm | 34.6 in

Product Specifications

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PARX6-59W-PXA/A

Antenna Dimensions And Mounting Information

Regulatory Compliance/Certifications

Agency	Classification
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system

* Footnotes

Axial Force (FA)	Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.
Cross Polarization Discrimination (XPD)	The difference between the peak of the co-polarized main beam and the maximum cross-polarized signal over an angle twice the 3 dB beamwidth of the co-polarized main beam.
Front-to-Back Ratio	Denotes highest radiation relative to the main beam, at 180° ±40°, across the band. Production antennas do not exceed rated values by more than 2 dB unless stated otherwise.
Gain, Mid Band	For a given frequency band, gain is primarily a function of antenna size. The gain of Andrew antennas is determined by either gain by comparison or by computer integration of the measured antenna patterns.
Operating Frequency Band	Bands correspond with CCIR recommendations or common allocations used throughout the world. Other ranges can be accommodated on special order.
Packing	Andrew standard packing is suitable for export. Antennas are shipped as standard in totally recyclable cardboard or wire-bound crates (dependent on product). For your convenience, Andrew offers heavy duty export packing options.
Radiation Pattern Envelope Reference (RPE)	Radiation patterns determine an antenna's ability to discriminate against unwanted signals under conditions of radio congestion. Radiation patterns are dependent on antenna series, size, and frequency.
Return Loss	The figure that indicates the proportion of radio waves incident upon the antenna that are rejected as a ratio of those that are accepted.
Side Force (FS)	Maximum side force exerted on the mounting pipe as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.
Twisting Moment (MT)	Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.
VSWR	Maximum; is the guaranteed Peak Voltage-Standing-Wave-Ratio within the operating band.
Wind Velocity Operational	The wind speed where the antenna deflection is equal to or less than 0.1 degrees. In the case of ValuLine antennas, it is defined as a maximum deflection of 0.3 x the 3 dB beam width of the antenna.
Wind Velocity Survival Rating	The maximum wind speed the antenna, including mounts and radomes, where applicable, will withstand without permanent deformation. Realignment may be required. This wind speed is applicable to antenna with the specified amount of radial ice.

Product Specifications

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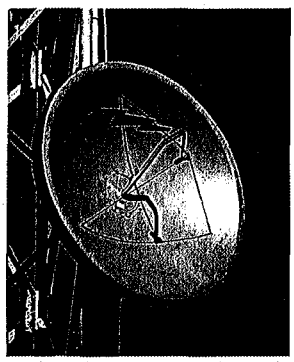

PARX8-59W

2.4 m | 8 ft Parabolic Unshielded Antenna for Relocation-Category A, dual-polarized, 5.925–7.125 GHz

Product Classification

Product Type	Microwave antenna

General Specifications

Antenna Type	PARX - Parabolic Unshielded Antenna for Relocation-Category A, dual-polarized
Diameter, nominal	2.4 m | 8 ft
Polarization	Dual

Electrical Specifications

Beamwidth, Horizontal	1.6 °
Beamwidth, Vertical	1.6 °
Cross Polarization Discrimination (XPD)	30 dB
Electrical Compliance	ETSI Class 1 | US FCC Part 101A | US FCC Part 74A
Front-to-Back Ratio	60 dB
Gain, Low Band	40.4 dBi
Gain, Mid Band	40.7 dBi
Gain, Top Band	40.9 dBi
Operating Frequency Band	5.925 – 7.125 GHz
Radiation Pattern Envelope Reference (RPE)	4372
Return Loss	26.4 dB
VSWR	1.10

Mechanical Specifications

Fine Azimuth Adjustment	±5°
Fine Elevation Adjustment	±5°
Mounting Pipe Diameter	115 mm | 4.5 in
Net Weight	125 kg | 276 lb
Side Struts, Included	1 inboard
Side Struts, Optional	3 outboard
Wind Velocity Operational	110 km/h | 68 mph
Wind Velocity Survival Rating	200 km/h | 125 mph

Wind Forces At Wind Velocity Survival Rating

Product Specifications

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PARX8-59W

Angle a for MT Max	-125 °
Axial Force (FA)	15372 N | 3456 lbf
Side Force (FS)	4196 N | 943 lbf
Twisting Moment (MT)	-5349 N•m
Weight with 1/2 in (12 mm) Radial Ice	243 kg | 536 lb
Zcg with 1/2 in (12 mm) Radial Ice	427 mm | 17 in
Zcg without Ice	343 mm | 14 in

Product Specifications

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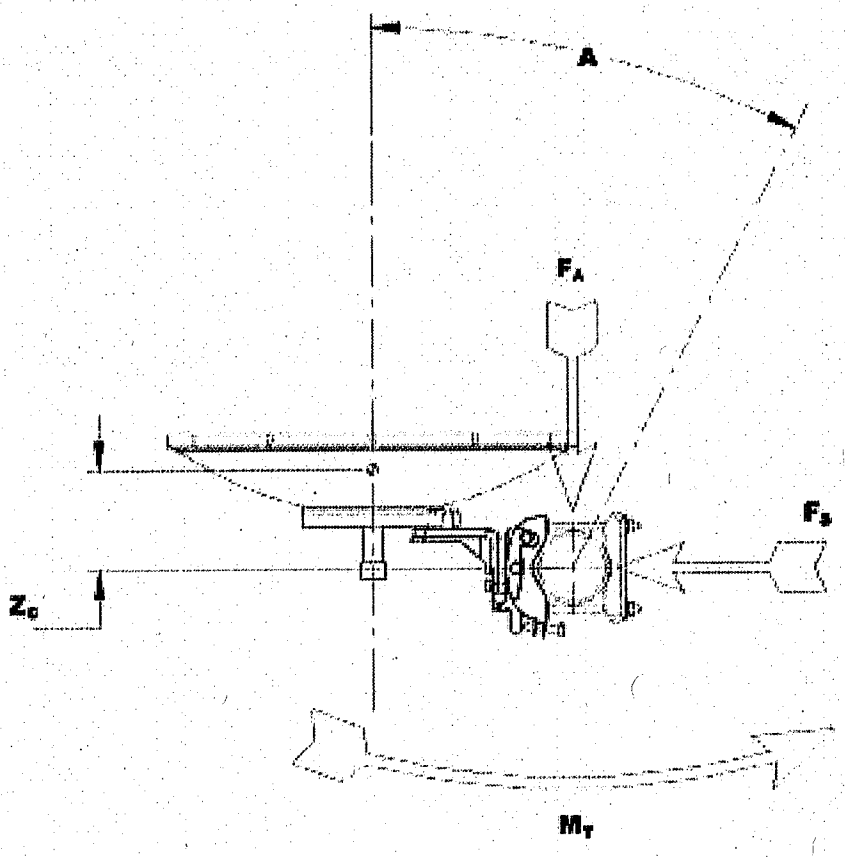
PARX8-59W

Wind Forces At Wind Velocity Survival Rating Image



Product Specifications

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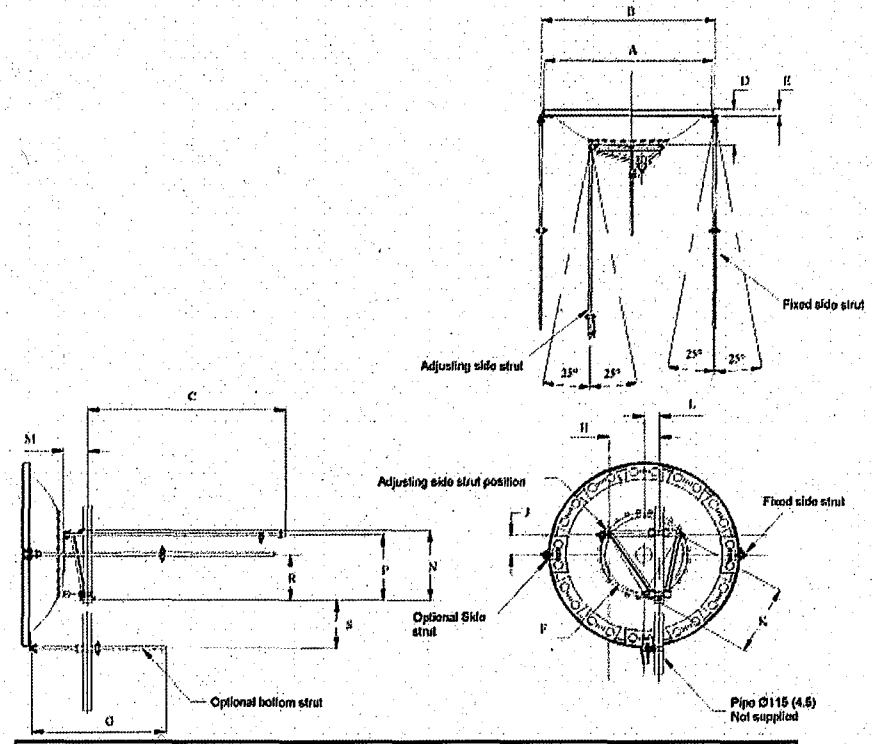
PARX8-59W

Antenna Dimensions And Mounting Information



ANTENNA DIMENSIONS All dimensions in mm (inches)			
A	2555 (100.5)	J	275 (10.75)
B	2705 (106.5)	K	950 (37.5)
C	3050 (120)	L	200 (8)
D	545 (21.5)	M	330 (13)
E	125 (5.0	N	950 (37.5)
F	1100 (43.25)	P	895 (35.25)
G	1525 (60)	R	625 (24.6)
H	680 (26.75)	S	695 (27.25)

Regulatory Compliance/Certifications

Agency
ISO 9001:2008

Classification

* Footnotes

Axial Force (FA)	Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.
Cross Polarization Discrimination (XPD)	The difference between the peak of the co-polarized main beam and the maximum cross-polarized signal over an angle twice the 3 dB beamwidth of the co-polarized main beam.
Front-to-Back Ratio	Denotes highest radiation relative to the main beam, at 180° ±40°, across the band. Production antennas do not exceed rated values by more than 2

	dB unless stated otherwise.
Gain, Mid Band	For a given frequency band, gain is primarily a function of antenna size. The gain of Andrew antennas is determined by either gain by comparison or by computer integration of the measured antenna patterns.
Operating Frequency Band	Bands correspond with CCIR recommendations or common allocations used throughout the world. Other ranges can be accommodated on special order.
Radiation Pattern Envelope Reference (RPE)	Radiation patterns define an antenna's ability to discriminate against unwanted signals. Under still dry conditions, production antennas will not have any peak exceeding the current RPE by more than 3dB, maintaining an angular accuracy of +/-1° throughout
Return Loss	The figure that indicates the proportion of radio waves incident upon the antenna that are rejected as a ratio of those that are accepted.
Side Force (FS)	Maximum side force exerted on the mounting pipe as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.
Twisting Moment (MT)	Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.
VSWR	Maximum; is the guaranteed Peak Voltage-Standing-Wave-Ratio within the operating band.
Wind Velocity Operational	The wind speed where the antenna deflection is equal to or less than 0.1 degrees. In the case of ValuLine antennas, it is defined as a maximum deflection of 0.3 x the 3 dB beam width of the antenna.
Wind Velocity Survival Rating	The maximum wind speed the antenna, including mounts and radomes, where applicable, will withstand without permanent deformation. Realignment may be required. This wind speed is applicable to antenna with the specified amount of radial ice.

EXHIBIT E
SPECIAL CONDITIONS, FACILITY RULES & REGULATIONS

I. Licensee must comply with the following special conditions:

A. Equipment and Antennas Installation:

1. All exterior transmission lines must be grounded at the following locations:
   a. at the top of the run immediately above the hoisting grip;
   b. at the bottom of the run above the horizontal transition;
   c. prior to the point of entry to the shelter; and
   d. if the vertical run is more than 250', additional hoisting grips and grounding kits are required as per manufacturer's specifications. Only manufacturer's grounding kits will be allowed for attachment. If the cable diameter is 7/8" or less, the cable must enter the shelter through the strike plate.
2. Transmission lines must be fastened to the tower ice bridge using the proper mechanical hanger or snap-in hanger kit except on side arms and up small masts where stainless steel wraplock is permitted. Hoisting grips will be used at the top of the vertical run.
3. All installation, repair and maintenance conducted by licensee shall be in accordance with good engineering standards and in conformity with the requirement of the FCC or any other body having jurisdiction over Licensee.

B. It is vital that standards for interference protection of systems are used to reduce the possibility of interference. The standards below are minimum and must be installed by Licensee.

Frequency Range	Minimum of Reverse Isolation Required (Isolator)	Band Pass Cavity, Minimum Attenuation At 1 MHz from Tx frequency
25-54 MHz	20dB	30dB
66-88-MHz	25dB	20dB
88-108 MHz	25dB	25dB
130-108 MHz	50dB	25dB
400-512 MHz	50dB	15dB
806-960 MHz	50dB	15dB

Hybrid transmitter combining will have a pass band filter installed on the output with the following attenuation at 1 MHz from the pass band frequency: UHF/800 MHz – 15dB.

Additional interference and isolation specifications may be required on a case-by-case basis as determined by Licensor at any time. Frequencies not included in the list above shall be dealt with on a case-by-case basis as determined within Licensor's reasonable discretions.

C. All interior cables must be ¼" or ½" superflex or 3/8" value flex manufactured by Andrew corp. or an acceptable equivalent. Kinked, cracked or split cables are prohibited. All antenna lines must have a jacketed, corrugated, solid outer, copper conductor. All transmit interconnection cable and jumpers must be solid copper outer conductor "superflex", hard-line or LMR-400. Moreover, all inside cable must be run on cable trays or hangers by the designated route for that location. All lines must be color coded at both ends showing termination points. All AC line cords must be 3-conductor type with grounding plug attached. All outside cables must be run on the transmission ice bridge with appropriate hardware and boots. Additionally, Licensee is prohibited from running cables within the Licensor's equipment building or the Licensor's rooftop facility without Licensor's written permission.

D. Transmitters must meet the original manufacturer's specifications. All shields must remain in place. Transmitters must have a visual indication of transmitter operation and be identified with the following information: owner's name, contact name, contact's phone number, operating frequencies, a copy of Licensee's current FCC/ NTIA License for the equipment and the equipments model/serial number.

E. All equipment cabinets and racks must be grounded to the designated building grounding point using #6 stranded copper – green jacketed cable. All equipment cabinets and racks must be bolted securely to the floor and include seismic braces at the top of the rack.

F. Licensor does not provide any warranty against electrical surge. Therefore, Licensor recommends that Licensee install, at Licensee's expense, individual transient surge protection on each circuit used by Licensee.

G. All antennas installed must be mounted using the proper antenna manufacturer's mounting brackets. Licensee shall pay for all antennas mounts it utilizes at the tower facility.

H. All antennas must be installed according to the antenna manufacturer's and applicable rooftop facility manufacturer's specifications. Moreover, all antenna lines entering the equipment building must have a suitable lightning surge arrestor installed within two feet of the cable entry port. This surge arrestor must be bonded to the site grounding system.

I. Neither Licensee nor any of its representatives shall interfere with any other entity's equipment in the Licensor's equipment shed. Moreover, Licensee nor will perform any maintenance on the electrical system shared by both parties without Licensor's prior approval.

J. Neither Licensor nor any of its representatives shall interfere with any other entity's equipment in the Licensee's equipment shed. Moreover, Licensor nor will perform any maintenance on the electrical system shared by both parties without prior notification to the Licensee.

K. All installations must be maintained in a neat and orderly manner. Doors to the equipment building must remain closed at all times. Access to equipment and antennas shall be by authorized personnel only.

L. Prior to the activation of its system on the tower facility, Licensee must submit a copy of its applicable FCC/NTIA License and all technical information pertaining to the equipment to be installed including accurate block diagrams showing operating frequencies, all system components (active or passive) with gains and losses in dB, and all power levels to Licensor.

M. Licensor reserves the right to rescind any of these rules and to make other rules if required for the safety and care of the tower facility and all licensees. Any changes to the rule and regulation will be done by formal written amendment. Upon notification to Licensee, such rules and regulations shall be binding upon Licensee in a manner as if originally herein prescribed.

EXHIBIT F
Procedures for Access to Childs Mountain Communications Site Facilities

Access to Pima County communications site facilities is restricted and will only be permitted for authorized purposes.

Procedures for access:

1. Licensee will supply a list of authorized maintenance personnel. This list will include the following:
    a. Name of Person
    b. Company
    c. Phone number
2. Email completed authorized user list to rooftops@pima.gov.
3. Prior to any work to be performed at the Childs Mountain communications site facility, tenant must submit an email to rooftops@pima.gov and Robert.Koumal@sheriff.pima.gov with the following information:
    a. Contact person, names of individuals performing work
    b. Day/time of work
    c. Type of work to be performed
    d. Duration of work
4. Arizona Public Service maintenance personnel have unrestricted access to the separately permitted U.S. Fish and Wildlife Service permitted R.O.W and the APS communications building via the APS access gate and APS system padlock. For any tower related work, APS personnel must notify Pima County in accordance with the Procedures above.