

AGREEMENT FOR AIR TRAFFIC CONTROL TOWER EQUIPMENT REPLACEMENT – PHASE II

THIS AGREEMENT FOR AIR TRAFFIC CONTROL TOWER EQUIPMENT REPLACEMENT – PHASE II (“Agreement”) is entered into by and between the **CITY OF OCALA**, a Florida municipal corporation (“City”), and **WOLEN LLC**, a foreign limited liability company duly organized in New Jersey and authorized to do business in the state of Florida (EIN: 20-3667184) (“Vendor”).

R E C I T A L S :

WHEREAS, on February 7, 2022, City issued an Invitation to Bid (“ITB”) for the provision and installation of new air traffic control tower equipment at the Ocala International Airport, ITB No.: AIR/220086 (the “Solicitation”); and

WHEREAS, one (1) firm responded to the Solicitation and, after consideration of price and other evaluation factors set forth in the Solicitation, the bid submitted by Wolen, LLC was found to be complete and reasonable by City; and

WHEREAS, Vendor was chosen as the intended awardee to provide and install air traffic control tower equipment at the Ocala International Airport (the “Project”); and

WHEREAS, Vendor certifies that Vendor and its subcontractors are qualified and possess the required licensure and skill to perform the work required for the Project; and

NOW THEREFORE, in consideration of the foregoing recitals, the following mutual covenants and conditions, and other good and valuable consideration, City and Vendor agree as follows:

T E R M S O F A G R E E M E N T :

1. **RECITALS.** City and Vendor hereby represent, warrant, and agree that the Recitals set forth above are true and correct and are incorporated herein by reference.
2. **CONTRACT DOCUMENTS.** The Contract Documents which comprise the entire understanding between City and Vendor shall only include: (a) this Agreement; (b) those documents listed in this section as Exhibits to this Agreement; (c) the City’s Solicitation for the Project and the bid submitted by Vendor in response to same (the “Solicitation Documents”); and (d) those documents identified in the Project Specifications section of this Agreement, if any. Each of these documents are incorporated herein by reference for all purposes.

If there is a conflict between the terms of this Agreement and the Contract Documents, then the terms of this Agreement shall control, amend, and supersede any conflicting terms contained in the remaining Contract Documents.

A. **Exhibits to Agreement:** The Exhibits to this Agreement are as follows:

- Exhibit A: Scope of Work (A-1 through A-4)
- Exhibit B: FAA Equipment Specifications (B-1 through B-4)
- Exhibit C: Price Proposal (C-1)
- Exhibit D: Proposed Material List (D-1 through D-21)

If there is a conflict between the individual Exhibits regarding the scope of work to be performed, then any identified inconsistency shall be resolved by giving precedence in the following order: (1) Exhibit A, then (2) Exhibit B, then (3), Exhibit C, then (4) Exhibit D.

3. **SCOPE OF SERVICES.** Vendor shall provide all materials, labor, supervision, tools, accessories, equipment, permits, fees, testing, inspections, certifications, and all other things necessary for Vendor to perform its obligations under this Agreement as set forth in the attached **Exhibit A - Scope of Work** and the Solicitation Documents. The Scope of Work under this Agreement may only be adjusted by written amendment executed by both parties.

4. **COMPENSATION.** City shall pay Vendor a lump sum amount of **SEVENTY-FOUR THOUSAND, NINE HUNDRED TWENTY-ONE AND NO/100 DOLLARS (\$74,921)** (the "Contract Sum") as full and complete compensation for the timely and satisfactory completion of the work in compliance with the Contract Documents. The compensation under this Agreement may only be adjusted by written amendment executed by both parties.

A. **Monthly Progress Payments:** The compensation amount under this section shall be paid by City, monthly, based upon a percentage of completion of the work as invoiced by Vendor and approved by City. The compensation sought under this Agreement is subject to the express terms of this Agreement and any applicable federal and/or state laws.

B. **Project Schedule and Progress Reports.** A progress report and updated project schedule must be submitted with each monthly pay request indicating the percent of services completed to date. This report will serve as support for payment to Vendor and the basis for payment in the event project is suspended or abandoned.

C. **Invoice Submission.** All invoices submitted by Vendor shall include the City Contract Number, an assigned Invoice Number, and an Invoice Date. Vendor shall submit an original invoice through the responsible City Project Manager at: **Ocala International Airport, Attn: Michael Baker, 1770 SW 60th Avenue, Ocala, Florida 34474**, E-Mail: mabaker@ocalafl.org.

D. **Payment of Invoices by City.** The City Project Manager must review and approve all invoices prior to payment. City Project Manager's approval shall not be unreasonably withheld, conditioned, or delayed. Payments by City shall be made no later than the time periods established in section 218.735, Florida Statutes.

- E. **Retainage.** City shall withhold an amount equal to **FIVE PERCENT (5%)** of each monthly progress payment as retainage to secure Vendor's full and faithful performance of its obligations under this Agreement (the "Retainage"). Vendor shall not be entitled to any interest received by City on Retainage. The Retainage shall be payable to Vendor, subject to the provisions of this subsection, upon satisfaction of the following conditions precedent: (1) confirmation from the City Project Manager that Vendor has satisfactorily completed all work in accordance with the provisions of the Agreement; and (2) receipt of the Consent of Surety of the recorded bond for final payment.
 - F. **Withholding of Payment.** City reserves the right to withhold, in whole or in part, payment for any and all work that: (i) has not been completed by Vendor; (ii) is inadequate or defective and has not been remedied or resolved in a manner satisfactory to the City Project Manager; or (iii) which fails to comply with any term, condition, or other requirement under this Agreement. Any payment withheld shall be released and remitted to Vendor within **THIRTY (30)** calendar days of the Vendor's remedy or resolution of the inadequacy or defect.
 - G. **Excess Funds.** If due to mistake or any other reason Vendor receives payment under this Agreement in excess of what is provided for by the Agreement, Vendor shall promptly notify City upon discovery of the receipt of the overpayment. Any overpayment shall be refunded to City within **THIRTY (30)** days of Vendor's receipt of the overpayment or must also include interest calculated from the date of the overpayment at the interest rate for judgments at the highest rate as allowed by law.
 - H. **Tax Exemption.** City is exempt from all federal excise and state sales taxes (State of Florida Consumer's Certification of Exemption 85-8012621655C-9). The City's Employer Identification Number is 59-60000392. Vendor shall not be exempted from paying sales tax to its suppliers for materials to fulfill contractual obligations with the City, nor will Vendor be authorized to use City's Tax Exemption Number for securing materials listed herein.
5. **TIME FOR PERFORMANCE.** Time is of the essence with respect to the performance of all duties, obligations, and responsibilities set forth in this Agreement and the Contract Documents.
- A. Vendor shall mobilize and commence work no later than **TEN (10)** working days from the date of issuance of a Notice to Proceed for the project by City. At no time will the Vendor be allowed to lag behind.

- B. **All work shall be substantially completed by Vendor in a manner satisfactory to the City Project Manager and ready for final payment within ONE HUNDRED NINETY-FIVE (195) days of the start date indicated on the Notice to Proceed.**
- C. The Time for Performance under this Agreement may only be adjusted by Change Order, in the sole and absolute discretion of City. Any request for an extension of the Time for Performance must be submitted in a writing delivered to the City Project Manager, along with all supporting data, within **SEVEN (7)** calendar days of the occurrence of the event giving rise to the need for adjustment unless the City allows an additional period of time to ascertain more accurate data. All requests for adjustments in the Contract Time shall be determined by City.
- D. As to any delay, inefficiency, or interference in this performance of this Agreement caused by any act or failure to act by City, the Vendor's sole remedy shall be the entitlement of an extension of time to complete the performance of the affected work in accordance with the Contract Documents. Vendor agrees to make no claim for extra or additional costs attributable to said delays, inefficiencies or interference, except as provided in this Agreement.
- E. None of the provisions of this section shall exclude City's right of recovery for damages caused by delays or inefficiencies caused by any act or failure to act by Vendor, to include costs incurred by City for the procurement of additional professional services.
- 6. **LIQUIDATED DAMAGES FOR LATE COMPLETION.** The parties agree that it would be extremely difficult and impracticable under the presently known facts and anticipated circumstances to ascertain and fix the actual damages that City and its residents would incur should Vendor fail to achieve Final Completion and readiness for final payment by the dates specified for each under the terms of this Agreement. Accordingly, the parties agree that should Vendor fail to achieve Final Completion by the date specified, then Vendor shall pay City, as liquidated damages and not as a penalty, the sum of **ONE HUNDRED AND NO/100 DOLLARS (\$100)** per day for each calendar day of unexcused delay in achieving Final Completion beyond the date specified for Final Completion in the Contract Documents.
 - A. **No Waiver of Rights or Liabilities.** Permitting Vendor to continue and finish the work, or any part thereof, beyond the dates specified for Final Completion and readiness for final payment shall not operate as a waiver on the part of the City of any of its rights under this Agreement. Any liquidated damages assessed pursuant to this section shall not relieve Vendor from liability for any damages or costs of other vendors caused by a failure of Vendor to complete the work as agreed.

- B. **Right to Withhold or Deduct Damages.** When liquidated damages are due and owing, City shall have the right to: (1) deduct the liquidated damages from any money in its hands or from any money otherwise due or to become due to Vendor; or to (2) initiate any applicable dispute resolution procedure for the recovery of liquidated damages within the times specified under this Agreement.
 - C. **Additional Costs.** In addition to the liquidated damages set forth under this section, Vendor agrees to pay all costs and expenses incurred by City due to Vendor's delay in performance to include inspection fees, superintendence costs, and travel expenses.
 - D. **Injunctive Relief.** The parties acknowledge that monetary damages may not be a sufficient remedy for Vendor's failure to achieve Final Completion in accordance with the terms of this Agreement, and that City shall be entitled, in addition to all other rights or remedies in law and equity, to seek injunctive relief.
7. **FORCE MAJEURE.** Neither party shall be liable for delay, damage, or failure in the performance of any obligation under this Agreement if such delay, damage, or failure is due to causes beyond its reasonable control, including without limitation: fire, flood, strikes and labor disputes, acts of war, acts of nature, terrorism, civil unrest, pandemics, acts or delays in acting of the government of the United States or the several states, judicial orders, decrees or restrictions, or any other like reason which is beyond the control of the respective party ("Force Majeure"). The party affected by any event of force majeure shall use reasonable efforts to remedy, remove, or mitigate such event and the effects thereof with all reasonable dispatch.
- A. The party affected by force majeure shall provide the other party with full particulars thereof including, but not limited to, the nature, details, and expected duration thereof, as soon as it becomes aware.
 - B. When force majeure circumstances arise, the parties shall negotiate in good faith any modifications of the terms of this Agreement that may be necessary or appropriate in order to arrive at an equitable solution. Vendor performance shall be extended for a number of days equal to the duration of the force majeure. Vendor shall be entitled to an extension of time only and, in no event, shall Vendor be entitled to any increased costs, additional compensation, or damages of any type resulting from such force majeure delays.
8. **INSPECTION AND ACCEPTANCE OF THE WORK.** Vendor shall report its progress to the City Project Manager as set forth herein. All services, work, and materials provided by Vendor under this Agreement shall be provided to the satisfaction and approval of the Project Manager.

- A. The Project Manager shall decide all questions regarding the quality, acceptability, and/or fitness of materials furnished, or workmanship performed, the rate of progress of the work, the interpretation of the plans and specifications, and the acceptable fulfillment of the Agreement, in his or her sole discretion, based upon both the requirements set forth by City and the information provided by Vendor in its Proposal. The authority vested in the Project Manager pursuant to this paragraph shall be confined to the direction or specification of what is to be performed under this Agreement and shall not extend to the actual execution of the work.
 - B. Neither the Project Manager's review of Vendor's work nor recommendations made by Project Manager pursuant to this Agreement will impose on Project Manager any responsibility to supervise, direct, or control Vendor's work in progress or for the means, methods, techniques, sequences, or procedures, or safety precautions or programs incident Vendor's furnishing and performing the work.
9. **TERMINATION AND DEFAULT.** Either party, upon determination that the other party has failed or refused to perform or is otherwise in breach of any obligation or provision under this Agreement or the Contract Document, may give written notice of default to the defaulting party in the manner specified for the giving of notices herein. Termination of this Agreement by either party for any reason shall have no effect upon the rights or duties accruing to the parties prior to termination.
- A. **Termination by City for Cause.** City shall have the right to terminate this Agreement immediately, in whole or in part, upon the failure of Vendor to carry out any obligation, term, or condition of this Agreement. City's election to terminate the Agreement for default shall be communicated by providing Vendor written notice of termination in the manner specified for the giving of notices herein. Any notice of termination given to Vendor by City shall be effective immediately, unless otherwise provided therein, upon the occurrence of any one or more of the following events:
 - (1) Vendor fails to timely and properly perform any of the services set forth in the specifications of the Agreement;
 - (2) Vendor provides material that does not meet the specifications of the Agreement;
 - (3) Vendor fails to complete the work required within the time stipulated in the Agreement; or
 - (4) Vendor fails to make progress in the performance of the Agreement and/or gives City reason to believe that Vendor cannot or will not perform to the requirements of the Agreement.

- B. **Vendor's Opportunity to Cure Default.** City may, in its sole discretion, provide Vendor with an opportunity to cure the violations set forth in City's notice of default to Vendor. Vendor shall commence to cure the violations immediately and shall diligently and continuously prosecute such cure to completion within a reasonable time as determined by City. If the violations are not corrected within the time determined to be reasonable by City or to the reasonable satisfaction of City, City may, without further notice, declare Vendor to be in breach of this Agreement and pursue all remedies available at law or equity, to include termination of this Agreement without further notice.
- C. **City's Remedies Upon Vendor Default.** In the event that Vendor fails to cure any default under this Agreement within the time period specified in this section, City may pursue any remedies available at law or equity, including, without limitation, the following:
- (1) City shall be entitled to terminate this Agreement without further notice;
 - (2) City shall be entitled to hire another contractor to complete the required work in accordance with the needs of City;
 - (3) City shall be entitled to recover from Vendor all damages, costs, and attorney's fees arising from Vendor's default prior to termination; and
 - (4) City shall be entitled to recovery from Vendor any actual excess costs by: (i) deduction from any unpaid balances owed to Vendor; or any other remedy as provided by law.
- D. **Termination for Convenience.** City reserves the right to terminate this Agreement in whole or in part at any time for the convenience of City without penalty or recourse. The Project Manager shall provide written notice of the termination. Upon receipt of the notice, Vendor shall immediately discontinue all work as directed in the notice, notify all subcontractors of the effective date of the termination, and minimize all further costs to City including, but not limited to, the placing of any and all orders for materials, facilities, or supplies, in connection with its performance under this Agreement. Vendor shall be entitled to receive compensation solely for: (1) the actual cost of the work completed in conformity with this Agreement; and/or (2) such other costs incurred by Vendor as permitted under this Agreement and approved by City.
10. **DELAYS AND DAMAGES.** The Vendor agrees to make no claim for extra or additional costs attributable to any delays, inefficiencies, or interference in the performance of this contract occasioned by any act or omission to act by the City except as provided in the Agreement. The Vendor also agrees that any such delay, inefficiency, or interference shall be compensated for solely by an extension of time to complete the performance of the work in accordance with the provision in the standard specification.

11. **WARRANTY.** Vendor warrants that all labor, materials, and equipment furnished under the agreement are new, of the type and quality required for the Project, and installed in a good and workmanlike manner in accordance with the Contract Documents. Vendor shall guarantee that the work shall be free from any defects in workmanship for a period of not less than **ONE (1) YEAR** from the conclusion of the six-month Operational Field Test Period. Vendor shall guarantee that the materials and work shall be of good quality, free from faults and defects in workmanship, and in conformance with the Contract Documents for the longer of: (1) **ONE (1)** year from the conclusion of the six-month Operational Field Test Period; or (2) the period of warranty provided by any supplier or manufacturer. All written manufacturers' warranties for materials supplied must be provided to the City Project Manager before final payment will be authorized.
12. **PERFORMANCE EVALUATION.** At the end of the contract, City may evaluate Vendor's performance. Any such evaluation will become public record.
13. **NOTICE REGARDING FAILURE TO FULFILL AGREEMENT.** Any contractor who enters into an Agreement with the City of Ocala and fails to complete the contract term, for any reason, shall be subject to future bidding suspension for a period of **ONE (1)** year and bid debarment for a period of up to **THREE (3)** years for serious contract failures.
14. **VENDOR REPRESENTATIONS.** Vendor expressly represents that:
 - A. Vendor has read and is fully familiar with all the terms and conditions of this Agreement, the Contract Documents, and other related data and acknowledges that they are sufficient in scope and detail to indicate and convey understanding of all terms and conditions of the work to be performed by Vendor under this Agreement.
 - B. Vendor has disclosed, in writing, all known conflicts, errors, inconsistencies, discrepancies, or omissions discovered by Vendor in the Contract Documents, and that the City's written resolution of same is acceptable to Vendor.
 - C. Vendor has had an opportunity to visit, has visited, or has had an opportunity to examine and ask questions regarding the sites upon which the work is to be performed and is satisfied with the site conditions that may affect cost, progress, and performance of the work, as observable or determinable by Vendor's own investigation.
 - D. Vendor is satisfied with the site conditions that may affect cost, progress, and performance of the work, as observable or determinable by Vendor's own investigation.
 - E. Vendor is familiar with all local, state, and Federal laws, regulations, and ordinances which may affect cost, progress, or its performance under this Agreement whatsoever.
 - F. **Public Entity Crimes.** Neither Vendor, its parent corporations, subsidiaries, members, shareholders, partners, officers, directors or executives, nor any of its affiliates, contractors,

suppliers, subcontractors, or consultants under this Agreement have been placed on the convicted vendor list following a conviction of a public entity crime. Vendor understands that a "public entity crime" as defined in section 287.133(1)(g), Florida Statutes, is "a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States..." Vendor further understands that any person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime: (1) may not submit a bid, proposal, or reply on a contract: (a) to provide any goods or services to a public entity; (b) for the construction or repair of a public building or public work; or (c) for leases of real property to a public entity; (2) may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and (3) may not transact business with any public entity in excess of the threshold amount provided in section 287.017, Florida Statutes, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

15. **VENDOR RESPONSIBILITIES.** Except as otherwise specifically provided for in this Agreement, the following provisions are the responsibility of the Vendor:

- A. Vendor shall competently and efficiently supervise, inspect, and direct all work to be performed under this Agreement, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the work in accordance with the Contract Documents.
- B. Vendor shall be solely responsible for the means, methods, techniques, sequences, or procedures of installation and safety precautions or programs incident thereto.
- C. Vendor shall be responsible to see that the finished work complies accurately with the contract and the intent thereof.
- D. Vendor shall comply with all local, state, and Federal laws, regulations, and ordinances which may affect cost, progress, or its performance under this Agreement, including, but not limited to obtaining all permits, licenses, and other authorizations necessary for the prosecution of the work and be responsible for all costs associated with same.
- E. Vendor shall operate and cause all equipment and materials supplied for or intended to be utilized in the Project to be operated and stored in only those areas prescribed by City. This includes the operations of workmen.
- F. Vendor shall be fully responsible for receipt, inspection, acceptance, handling, and storage of all equipment and materials supplied for or intended to be utilized in the Project, whether furnished by Vendor or City. Vendor shall be responsible for providing adequate

safeguards to prevent loss, theft, damage, or commingling with other materials or projects.

- G. Vendor shall continue its performance under this Agreement during the pendency of any dispute or disagreement arising out of or relating to this Agreement, except as Vendor and City may otherwise agree in writing.

16. **NO EXCLUSIVITY.** It is expressly understood and agreed by the parties that this is not an exclusive agreement. Nothing in this Agreement shall be construed as creating any exclusive arrangement with Vendor or as prohibit City from either acquiring similar, equal, or like goods and/or services or from executing additional contracts with other entities or sources.

17. **RIGHT OF ACCESS AND OTHER WORK PERFORMED BY THIRD PARTIES.** City may perform additional work related to the Project itself, or have additional work performed by utility service companies, or let other direct contracts therefore which shall contain General Conditions similar to these. Vendor shall afford the utility service companies and the other contractors who are parties to such direct contracts (or City, if City is performing the additional work with City's employees) reasonable opportunity for the introduction and storage of materials and equipment and the execution of work and shall properly connect and coordinate his work with theirs.

- A. If any part of Vendor's work depends for proper execution or results upon the work of any such other contractor or utility service company (or City), Vendor shall inspect and promptly report to City in writing any latent or apparent defects or deficiencies in such work that render it unsuitable for such proper execution and results. Vendor's failure to so report shall constitute an acceptance of the other work as fit and proper for integration with Vendor's work except for latent or non-apparent defects and deficiencies in the other work.

- B. Vendor shall do all cutting, fitting, and patching of work that may be required to make the parts come together properly and integrate with such other work. Vendor shall not endanger any work of others by cutting, excavating, or otherwise altering their work, and will only cut or alter their work with the written consent of City.

18. **STORAGE OF MATERIALS/EQUIPMENT.** Vendor shall be fully responsible for receipt, inspection, acceptance, handling, and storage of equipment and materials (whether furnished by Vendor or City) to be utilized in the performance of or incorporated into the work.

19. **RESPONSIBILITIES OF CITY.** City or its representative shall issue all communications to Vendor. City has the authority to request changes in the work in accordance with the terms of this Agreement and with the terms in **Exhibit A – Scope of Work**. City has the authority to stop work or to suspend any work.

20. **COMMERCIAL AUTO LIABILITY INSURANCE.** Vendor shall procure and maintain, for the life of this Agreement, commercial auto liability insurance covering all automobiles owned, non-owned, hired, and scheduled by Vendor with a combined limit of not less than One Million Dollars (\$1,000,000) for bodily injury and property damage for each accident. Vendor's commercial automobile liability insurance policy must name, as additional insured, the City of Ocala, a political subdivision of the State of Florida, and its officials, employees, and volunteers.
21. **COMMERCIAL GENERAL LIABILITY INSURANCE.** Vendor shall procure and maintain, for the life of this Agreement, commercial general liability insurance with minimum coverage limits not less than:
- A. One Million Dollars (\$1,000,000) per occurrence and Two Million Dollars (\$2,000,000) aggregate limit for bodily injury, property damage, and personal injury, and advertising injury; and
 - B. One Million Dollars (\$1,000,000) per occurrence and Two Million Dollars (\$2,000,000) aggregate limit for contractual liability, products and completed operations, independent contractors, and property in the care, control or custody of the Vendor.
 - C. Vendor's commercial general liability insurance policy shall include Endorsement CG 20 10 11 85, or equivalent, naming as an additional insured the City of Ocala, a political subdivision of the State of Florida, and its officials, employees, and volunteers. The coverage shall contain no special limitation on the scope of protection afforded to City, its officials, employees, or volunteers.
22. **WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY COVERAGE.** Vendor shall procure and maintain, for the life of this Agreement, Workers' Compensation insurance and employer's liability coverage in amounts required by Florida law. If Vendor claims an exemption from workers' compensation coverage, Vendor must provide a copy of the Certificate of Exemption from the Florida Division of Workers' Compensation for all officers or members of an LLC claiming exemption who will be participating in the Work. Vendor is solely responsible for compliance with any Federal workers' compensation laws such as Jones Act and USL&H Act, including any benefits available to any workers performing work on this Project. In case any class of employees engaged in hazardous work under this Agreement is not protected under Worker's Compensation statutes, the Vendor shall provide and cause each subcontractor to provide adequate insurance satisfactory to the City for the protection of its employees not otherwise protected.

23. MISCELLANEOUS INSURANCE PROVISIONS.

- A. Insurance Requirements. These insurance requirements shall not relieve or limit the liability of Vendor. City does not in any way represent that these types or amounts of insurance are sufficient or adequate to protect Vendor's interests or liabilities but are merely minimums. No insurance is provided by the City under this contract to cover Vendor. **No work shall be commenced under this contract until the required Certificate(s) of Insurance have been provided.** Work shall not continue after expiration (or cancellation) of the Certificates of Insurance and shall not resume until new Certificate(s) of Insurance have been provided. Insurance written on a "Claims Made" form is not acceptable without consultation with City of Ocala Risk Management.
- B. Deductibles. Vendor is responsible for paying any and all deductibles or self-insured retention. Any deductibles or self-insured retentions above \$100,000 must be declared to and approved by the City. Approval will not be unreasonably withheld.
- C. Certificates of Insurance. Vendor shall provide Certificates of Insurance, accompanied by copies of all endorsements required by this section, that are issued by an agency authorized to do business in the State of Florida and with an A.M. Best rating* of A-V or greater. Renewal certificates must be forwarded to the **City of Ocala Contracting Department, Third Floor, 110 SE Watula Avenue, Ocala, Florida 34471, E-Mail: vendors@ocalafl.org** prior to the policy expiration.
- D. Failure to Maintain Coverage. In the event Vendor fails to disclose each applicable deductible/self-insured retention or obtain or maintain in full force and effect any insurance coverage required to be obtained by Vendor under this Agreement, Vendor shall be considered to be in default of this Agreement.
- E. Severability of Interests. Vendor shall arrange for its liability insurance to include General Liability, Business Automobile Liability, and Excess/Umbrella Insurance, or to be endorsed to include a severability of interests/cross liability provision so that the "City of Ocala" (where named as an additional insured) will be treated as if a separate policy were in existence, but without increasing the policy limits.
- F. Mandatory Endorsements for All Required Policies. All required policies shall include: (i) endorsement that waives any right of subrogation against the City of Ocala for any policy of insurance provided under this Agreement or under any state or federal worker's compensation or employer's liability act; and (ii) endorsement to give the City of Ocala no less than **THIRTY (30)** days written notice (with the exception of non-payment of premium which requires a **TEN (10)** calendar day notice) in the event of cancellation or material change.

24. **SAFETY/ENVIRONMENTAL.** Vendor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Vendor shall make an effort to detect hazardous conditions and shall take prompt action where necessary to avoid accident, injury or property damage. EPA, DEP, OSHA and all other applicable safety laws and ordinances shall be followed as well as American National Standards Institute Safety Standards. Vendor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:

- A. All employees on the work and other persons that may be affected thereby;
- B. All work, materials and equipment to be incorporated therein, whether in storage on or off the site; and
- C. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of work.

All, injury, or loss to any property caused, directly or indirectly, in whole or in part, by Vendor, any subcontractor, or anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, shall be remedied by Vendor. Vendor's duties and responsibilities for the safety and protection of the work shall continue until such time as the work is completed and accepted by City.

25. **WORK SITE AND CLEANUP.** Daily, during the progress of the work, Vendor shall keep the premises free from accumulations of waste materials, rubbish, and all other debris resulting from the work. At the completion of the work, Vendor shall remove all waste materials, rubbish, and debris from and about the premises, as well as all tools, appliances, equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by City. Vendor shall provide an inventory listing of all surplus materials in an area designated by City. Vendor shall restore to their original condition those portions of the site not designated or alteration by the Contract.

26. **NON-DISCRIMINATORY EMPLOYMENT PRACTICES.** During the performance of the contract, the Vendor shall not discriminate against any employee or applicant for employment because of race, color, religion, ancestry, national origin, sex, pregnancy, age, disability, sexual orientation, gender identity, marital or domestic partner status, familial status, or veteran status and shall take affirmative action to ensure that an employee or applicant is afforded equal employment opportunities without discrimination. Such action shall be taken with reference to, but not limited to: recruitment, employment, termination, rates of pay or other forms of compensation and selection for training or retraining, including apprenticeship and on-the-job training.

27. **SUBCONTRACTORS.** Nothing in this Agreement shall be construed to create, impose, or give rise to any duty owed by City or its representatives to any subcontractor of Vendor or any other persons or organizations having a direct contract with Vendor, nor shall it create any obligation on the part of City or its representatives to pay or seek payment of any monies to any subcontractor of Vendor or any other persons or organizations having a direct contract with Vendor, except as may otherwise be required by law. City shall not be responsible for the acts or omissions of any Vendor, subcontractor, or of any of their agents or employees, nor shall it create any obligation on the part of City or its representatives to pay or to seek the payment of any monies to any subcontractor or other person or organization, except as may otherwise be required by law.
28. **EMERGENCIES.** In an emergency affecting the welfare and safety of life or property, Vendor, without special instruction or authorization from the City Project Manager, is hereby permitted, authorized and directed to act at its own discretion to prevent threatened loss or injury. Except in the case of an emergency requiring immediate remedial work, any work performed after regular working hours, on Saturdays, Sundays or legal holidays, shall be performed without additional expense to the City unless such work has been specifically requested and approved by the City Project Manager. Vendor shall be required to provide to the City Project Manager with the names, addresses and telephone numbers of those representatives who can be contacted at any time in case of emergency. Vendor's emergency representatives must be fully authorized and equipped to correct unsafe or excessively inconvenient conditions on short notice by City or public inspectors.
29. **INDEPENDENT CONTRACTOR STATUS.** Vendor acknowledges and agrees that under this Agreement, Vendor and any agent or employee of Vendor shall be deemed at all times to be an independent contractor and shall be wholly responsible for the manner in which it performs the services and work required under this Agreement. Neither Vendor nor its agents or employees shall represent or hold themselves out to be employees of City at any time. Neither Vendor nor its agents or employees shall have employee status with City. Nothing in this Agreement shall constitute or be construed to create any intent on the part of either party to create an agency relationship, partnership, employer-employee relationship, joint venture relationship, or any other relationship which would allow City to exercise control or discretion over the manner or methods employed by Vendor in its performance of its obligations under this Agreement.
30. **ACCESS TO FACILITIES.** City shall provide Vendor with access to all City facilities as is reasonably necessary for Vendor to perform its obligations under this Agreement.

31. **ASSIGNMENT.** Neither party may assign its rights or obligations under this Agreement to any third party without the prior express approval of the other party, which shall not be unreasonably withheld.
32. **RIGHT OF CITY TO TAKE OVER CONTRACT.** Should the work to be performed by Vendor under this Agreement be abandoned, or should Vendor become insolvent, or if Vendor shall assign or sublet the work to be performed hereunder without the written consent of City, the City Project Manager shall have the power and right to hire and acquire additional men and equipment, supply additional material, and perform such work as deemed necessary for the completion of this Agreement. Under these circumstances, all expenses and costs actually incurred by City to accomplish such completion shall be credited to City along with amounts attributable to any other elements of damage and certified by the Project Manager. The City Project Manager's certification as to the amount of such liability shall be final and conclusive.
33. **PUBLIC RECORDS.** The Vendor shall comply with all applicable provisions of the Florida Public Records Act, Chapter 119, Florida Statutes. Specifically, the Vendor shall:
- A. Keep and maintain public records required by the public agency to perform the service.
 - B. Upon request from the public agency's custodian of public records, provide the public agency with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law.
 - C. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the Vendor does not transfer the records to the public agency.
 - D. Upon completion of the contract, transfer, at no cost, to the public agency all public records in possession of the Vendor or keep and maintain public records required by the public agency to perform the service. If the Vendor transfers all public records to the public agency upon completion of the contract, the Vendor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Vendor keeps and maintains public records upon completion of the contract, the Vendor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the public agency, upon request from the public agency's custodian of public records, in a format that is compatible with the information technology systems of the public agency.

IF THE VENDOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE VENDOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT: CITY OF OCALA, OFFICE OF THE CITY CLERK; 352-629-8266; E-mail: clerk@ocalafl.org; City Hall, 110 SE Watula Avenue, Ocala, FL 34471.

34. **TAX EXEMPTION.** City is exempt from all federal excise and state sales taxes (State of Florida Consumer's Certification of Exemption 85-8012621655C-9). The City's Employer Identification Number is 59-60000392. Vendor doing business with City will not be exempted from paying sales tax to its suppliers for materials to fulfill contractual obligations with the City, nor will Vendor be authorized to use City's Tax Exemption Number for securing materials listed herein.
35. **AUDIT.** Vendor shall comply and cooperate immediately with any inspections, reviews, investigations, or audits relating to this Agreement as deemed necessary by the Florida Office of the Inspector General, the City's Internal or External auditors or by any other Florida official with proper authority.
36. **PUBLICITY.** Vendor shall not use City's name, logo, seal or other likeness in any press release, marketing materials, or other public announcement without City's prior written approval.
37. **E-VERIFY.** Pursuant to section 448.095, Vendor shall register with and use the U.S. Department of Homeland Security's ("DHS") E-Verify System, accessible at <https://e-verify.uscis.gov/emp>, to verify the work authorization status of all newly hired employees. Vendor shall obtain affidavits from any and all subcontractors in accordance with paragraph 2(b) of section 448.095, Florida Statutes, and maintain copies of such affidavits for the duration of this Agreement. By entering into this Agreement, Vendor certifies and ensures that it utilizes and will continue to utilize the DHS E-Verify System for the duration of this Agreement and any subsequent renewals of same. Vendor understands that failure to comply with the requirements of this section shall result in the termination of this Agreement and Vendor may lose the ability to be awarded a public contract for a minimum of one (1) year after the date on which the Agreement was terminated. Vendor shall provide a copy of its DHS Memorandum of Understanding upon City's request. Please visit www.e-verify.gov for more information regarding the E-Verify System.
38. **CONFLICT OF INTEREST.** Vendor is required to have disclosed, with the submission of their bid, the name of any officer, director, or agent who may be employed by the City. Vendor shall further disclose the name of any City employee who owns, directly or indirectly, any

interest in Vendor's business or any affiliated business entity. Any additional conflicts of interest that may occur during the contract term must be disclosed to the City of Ocala Procurement Department.

39. **WAIVER.** The failure or delay of any party at any time to require performance by another party of any provision of this Agreement, even if known, shall not affect the right of such party to require performance of that provision or to exercise any right, power or remedy hereunder. Any waiver by any party of any breach of any provision of this Agreement should not be construed as a waiver of any continuing or succeeding breach of such provision, a waiver of the provision itself, or a waiver of any right, power or remedy under this Agreement. No notice to or demand on any party in any circumstance shall, of itself, entitle such party to any other or further notice or demand in similar or other circumstances.
40. **SEVERABILITY OF ILLEGAL PROVISIONS.** Wherever possible, each provision of this Agreement shall be interpreted in such a manner as to be effective and valid under the applicable law. Should any portion of this Agreement be declared invalid for any reason, such declaration shall have no effect upon the remaining portions of this Agreement.
41. **INDEMNITY.** Vendor shall indemnify City and its elected officials, employees and volunteers against, and hold City and its elected officials, employees and volunteers harmless from, all damages, claims, losses, costs, and expenses, including reasonable attorneys' fees, which City or its elected officials, employees or volunteers may sustain, or which may be asserted against City or its elected officials, employees or volunteers, arising out of the activities contemplated by this Agreement including, without limitation, harm or personal injury to third persons during the term of this Agreement to the extent attributable to the actions of Vendor, its agents, and employees.
42. **NO WAIVER OF SOVEREIGN IMMUNITY.** Nothing herein is intended to waive sovereign immunity by the City to which sovereign immunity may be applicable, or of any rights or limits of liability existing under Florida Statute § 768.28. This term shall survive the termination of all performance or obligations under this Agreement and shall be fully binding until any proceeding brought under this Agreement is barred by any applicable statute of limitations.
43. **NOTICES.** All notices, certifications or communications required by this Agreement shall be given in writing and shall be deemed delivered when personally served, or when received if by facsimile transmission with a confirming copy mailed by registered or certified mail, postage prepaid, return receipt requested. Notices can be concurrently delivered by e-mail. All notices shall be addressed to the respective parties as follows:

If to Vendor:

Wolen, LLC
Attention: Paul Wolownik
103 Country Club Drive
Linwood, New Jersey 08221
Phone: 609-335-2063
Email: pwolownik@wolenllc.com

If to City of Ocala:

Tiffany Kimball, Contracting Officer
110 SE Watula Avenue, 3rd Floor
Ocala, Florida 34471
Phone: 352-629-8366 Fax: 352-690-2025
E-mail: tkimball@ocalafl.org

Copy to:

Robert W. Batsel, Jr.
Gooding & Batsel, PLLC
1531 SE 36th Avenue
Ocala, Florida 34471
Phone: 352-579-6536
E-mail: rbatsel@lawyersocala.com

44. **ATTORNEYS' FEES.** If any civil action, arbitration or other legal proceeding is brought for the enforcement of this Agreement, or because of an alleged dispute, breach, default or misrepresentation in connection with any provision of this Agreement, the successful or prevailing party shall be entitled to recover reasonable attorneys' fees, sales and use taxes, court costs and all expenses reasonably incurred even if not taxable as court costs (including, without limitation, all such fees, taxes, costs and expenses incident to arbitration, appellate, bankruptcy and post-judgment proceedings), incurred in that civil action, arbitration or legal proceeding, in addition to any other relief to which such party or parties may be entitled. Attorneys' fees shall include, without limitation, paralegal fees, investigative fees, administrative costs, sales and use taxes and all other charges reasonably billed by the attorney to the prevailing party.

45. **JURY WAIVER.** IN ANY CIVIL ACTION, COUNTERCLAIM, OR PROCEEDING, WHETHER AT LAW OR IN EQUITY, WHICH ARISES OUT OF, CONCERNS, OR RELATES TO THIS AGREEMENT, ANY AND ALL TRANSACTIONS CONTEMPLATED HEREUNDER, THE PERFORMANCE HEREOF, OR THE

RELATIONSHIP CREATED HEREBY, WHETHER SOUNDING IN CONTRACT, TORT, STRICT LIABILITY, OR OTHERWISE, TRIAL SHALL BE TO A COURT OF COMPETENT JURISDICTION AND NOT TO A JURY. EACH PARTY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY. NEITHER PARTY HAS MADE OR RELIED UPON ANY ORAL REPRESENTATIONS TO OR BY ANY OTHER PARTY REGARDING THE ENFORCEABILITY OF THIS PROVISION. EACH PARTY HAS READ AND UNDERSTANDS THE EFFECT OF THIS JURY WAIVER PROVISION.

46. **GOVERNING LAW.** This Agreement is and shall be deemed to be a contract entered and made pursuant to the laws of the State of Florida and shall in all respects be governed, construed, applied and enforced in accordance with the laws of the State of Florida.
47. **JURISDICTION AND VENUE.** The parties acknowledge that a majority of the negotiations, anticipated performance and execution of this Agreement occurred or shall occur in Marion County, Florida. Any civil action or legal proceeding arising out of or relating to this Agreement shall be brought only in the courts of record of the State of Florida in Marion County or the United States District Court, Middle District of Florida, Ocala Division. Each party consents to the exclusive jurisdiction of such court in any such civil action or legal proceeding and waives any objection to the laying of venue of any such civil action or legal proceeding in such court and/or the right to bring an action or proceeding in any other court. Service of any court paper may be effected on such party by mail, as provided in this Agreement, or in such other manner as may be provided under applicable laws, rules of procedures or local rules.
48. **REFERENCE TO PARTIES.** Each reference herein to the parties shall be deemed to include their successors, assigns, heirs, administrators, and legal representatives, all whom shall be bound by the provisions hereof.
49. **MUTUALITY OF NEGOTIATION.** Vendor and City acknowledge that this Agreement is a result of negotiations between Vendor and City, and the Agreement shall not be construed in favor of, or against, either party because of that party having been more involved in the drafting of the Agreement.
50. **SECTION HEADINGS.** The section headings herein are included for convenience only and shall not be deemed to be a part of this Agreement.
51. **RIGHTS OF THIRD PARTIES.** Nothing in this Agreement, whether express or implied, is intended to confer any rights or remedies under or because of this Agreement on any persons

other than the parties hereto and their respective legal representatives, successors and permitted assigns. Nothing in this Agreement is intended to relieve or discharge the obligation or liability of any third persons to any party to this Agreement, nor shall any provision give any third persons any right of subrogation or action over or against any party to this Agreement.

52. **AMENDMENT.** No amendment to this Agreement shall be effective except those agreed to in writing and signed by both parties to this Agreement.
53. **COUNTERPARTS.** This Agreement may be executed in counterparts, each of which shall be an original and all of which shall constitute the same instrument.
54. **ELECTRONIC SIGNATURE(S).** Vendor, if and by offering an electronic signature in any form whatsoever, will accept and agree to be bound by said electronic signature to all terms and conditions of this Agreement. Further, a duplicate or copy of the Agreement that contains a duplicated or non-original signature will be treated the same as an original, signed copy of this original Agreement for all purposes.
55. **ENTIRE AGREEMENT.** This Agreement, including exhibits, (if any) constitutes the entire Agreement between the parties hereto with respect to the subject matter hereof. There are no other representations, warranties, promises, agreements or understandings, oral, written or implied, among the Parties, except to the extent reference is made thereto in this Agreement. No course of prior dealings between the parties and no usage of trade shall be relevant or admissible to supplement, explain, or vary any of the terms of this Agreement. No representations, understandings, or agreements have been made or relied upon in the making of this Agreement other than those specifically set forth herein.
56. **LEGAL AUTHORITY.** Each person signing this Agreement on behalf of either party individually warrants that he or she has full legal power to execute this Agreement on behalf of the party for whom he or she is signing, and to bind and obligate such party with respect to all provisions contained in this Agreement.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK. SIGNATURE PAGE TO FOLLOW.]

IN WITNESS WHEREOF, the parties have executed this Agreement on _____.

ATTEST:

CITY OF OCALA

Angel B. Jacobs
City Clerk

Ire Bethea, Sr.
City Council President

Approved as to form and legality:

WOLEN, LLC

Robert W. Batsel, Jr.
City Attorney

By: _____

(Printed Name)

(Title)

BACKGROUND

1. Vendor must provide all materials, equipment, and labor necessary to complete the Air Traffic Control Equipment Replacement project for the Ocala International Airport. New equipment must be in accordance with specifications in the applicable sections of Federal Aviation Administration (FAA) Joint Order 7210.78, Appendix A – FAA Contract Tower Minimum Equipment and Facilities List (**Exhibit B**).
2. Air Traffic Control Tower (ATCT) equipment is essential to safe and efficient air traffic operations at the Ocala International Airport. Air Traffic Control equipment must be functional and reliable to ensure the safety of the Air Traffic System and to comply with FAA regulations. The current equipment has reached, or is nearing the end of its service life, and must be replaced to ensure compliance and sustainability. This project replaces portions of the existing airport sponsor-provided ATCT equipment. Procurement of new equipment will ensure compliance with FAA requirements for the FAA Contract Tower (FCT) Program.

PROJECT SUMMARY

1. All equipment shall be new. The proposed equipment must meet the following requirements, at a minimum:
 - A. **Replacement ATCT communications equipment shall include:**
 - 1) Very High Frequency (VHF) radios, as required, to support level of traffic; i.e., Local Control, Ground Control, Automatic Terminal Information Service, Clearance Delivery, and Emergency; one transmitter and one receiver for each frequency. Handheld radios are not authorized as primary units. Must include necessary antennas. (Replace current system)
 - 2) Tunable emergency transceiver with backup power supply (to provide backup VHF communication). (Replace current system)
 - 3) Automatic Terminal Information Service (ATIS), (for towers with 50,000 or more annual operations). (Replace current system)
 - 4) Two pairs of operable binoculars (7x50 or greater). (Replace current)
 - 5) Signal Light Gun with a backup power source. (Replace current)
 - 6) Two digital 24-hour time sources with hours-minutes-seconds display visible from operating positions. (Replace current)
 - 7) Manual or automated traffic counting device. (Replace current)
2. **Installation:** The new equipment must be installed with minimum disruption of daily air traffic control and airport operations. Vendor shall be responsible to field verify all measurements prior to fabrication and installation.
3. **Permits:** Vendor is responsible for obtaining all required permits including the State of Florida and the City of Ocala. The City will reimburse the permit costs money to the vendor.
4. **Compliance:** All work shall be accomplished in accordance with the current applicable Florida Building Code, National Fire Protection Agency (NFPA), the National Electric Code, and all other applicable local and state codes.
5. Prior to proceeding with the work, the Vendor shall the following:
 - A. Work Plan
 - B. Schedule

- C. Existing Equipment Inventory
 - D. New Equipment Catalog Data and Manufacturer's Data
 - E. Wiring Diagrams (Complete)
 - F. Testing Plan and Procedures
6. **Working Hours:** The normal/standard working hours for this project are 7:00 AM – 5:00 PM Monday through Friday, excluding holidays. Vendor shall provide a 48-hour advance notice to City Project Manager for work outside normal shift hours. The City may decline the request.

VENDOR RESPONSIBILITIES

1. Vendor shall provide all labor, tools, materials, and equipment, and perform all work required for the installation, wiring, connecting, adjusting, testing, operating, training, and warranting of all items detailed in this scope of work and meet, as a minimum, the requirements in Federal Aviation Administration (FAA) Federal Contract Tower (FCT) Minimum Equipment and Facilities List (MEL) defined in **Exhibit B**. Vendor must provide sufficient information to demonstrate proposed equipment meets or exceeds the applicable FAA specifications for each item.
2. Procure, install, test, and commission specified new equipment and remove existing equipment after successful installation of new equipment. All replaced equipment shall remain the property of the City. Radios shall be tuned and certified by Federal Communications Commission (FCC) licensed radio-telephone installers, in accordance with current FAA Orders, Advisory Circulars, and other pertinent guidelines.
3. Coordinate with applicable telecommunications providers and the FAA on the shout, dial-up, commercial phone lines, or existing FAA equipment as needed to facilitate installation of new equipment.
4. Vendor shall provide all manuals, instructions, and specification materials for all equipment.
5. Vendor shall provide information concerning required maintenance and inspection of equipment as required.
6. **Vendor and all representatives of the Vendor are required to pass a Level II background screening** which includes fingerprinting.
 - A. The City shall be responsible for conducting the background check.
 - B. If Vendor has a current FAA/government security clearance/background check, this requirement is waived.
7. Vendor shall complete all work performed in accordance with policies and procedures of the City of Ocala and all applicable State and Federal laws, policies, procedures, and guidelines.
8. Installation shall be performed in compliance with all requirements and instructions of applicable manufacturers.
9. Vendor is responsible for any and all damages including but not limited to buildings, curbing, pavement, landscaping, or irrigation systems caused by their activity. Should any public or private property be damaged or destroyed, the Vendor at their expense, shall repair or make restoration as acceptable to the City of destroyed or damaged property no later than one (1) month from the date damage occurred.

FIRST FIELD TEST AND FINAL INSTALLATION APPROVAL

1. Vendor shall field-test all equipment once the installation is complete. Testing shall ensure that all components of the systems (hardware, software, cabling, etc.) are operational, performing within specifications, and connected properly.
2. Initial field testing shall be performed with a City-designated representative in attendance.
3. Vendor shall track and notate all errors, bugs, and deficiencies found during testing and ensure that any issue is corrected until satisfactory results are obtained.
4. Vendor shall submit written copies of issues found and repairs made to the City Project Manager.
5. An operational field test period shall extend for six (6) months from the end of the initial field test period. During this period, ATC personnel shall track and notate all errors, bugs, and deficiencies found during daily operation and report to the Vendor for corrective action and/or warranty service.

TRAINING

1. Provide training for air traffic and airport personnel on system(s) operation and troubleshooting.
2. Training shall begin after installation is complete.
3. Vendor will provide all training required to ensure that City-designated users of all systems equipment and software are competent in the use of all hardware and software. Training will be "hands-on."
4. Vendor shall decide on what materials (videos, handbooks, etc.) will be required to ensure that training is complete and successful.
5. Training shall constitute a complete run-through of the equipment to include normal operation, software/hardware usage, and troubleshooting.
6. Training shall also cover necessary steps and procedures regarding the installation and/or upgrade of any hardware or software component.

SUBCONTRACTORS

1. Services assigned to subcontractors must be approved in advance by the City Project Manager.

SECOND FIELD TESTING AT 6 MONTHS

1. Vendor shall guarantee that the materials and work shall be of good quality, free from faults and defects in workmanship. All written manufacturers' warranties for materials supplied must be provided to the City Project Manager before final payment will be authorized. Contractor will provide a warranty service plan.
2. An operational field test period shall extend for six (6) months from the end of initial field test period. During this period, ATC personnel will track and notate all errors, bugs, and deficiencies found during daily operation and report to the Vendor for corrective action and/or warranty service.
3. A (1) year warranty is required from the conclusion of the six-month Operational Field Test Period.
4. All warranty documentation and owner/operator manuals must be provided before the final payment request.

SITE HOUSEKEEPING AND CLEANUP

Vendor shall keep the premises free at all times from the accumulation of waste materials and rubbish caused by operations and employees. Such responsibilities shall include but are not limited to:

1. Periodic cleanup to avoid hazards or interference with operations at the site, and to leave the site in a reasonably neat condition.
2. Worksite will be completely cleaned after each day of work.
3. Vendor shall dispose of debris in a legal manner.

SAFETY

1. Vendor shall be fully responsible for the provision of adequate and proper safety precautions meeting all OSHA, local, state, and national codes concerning safety provisions for their employees, sub-contractors, all building and site occupants, staff, public, and all persons in or around the work area.
2. In no event shall the City be responsible for any damages to any of the Vendor's equipment, materials, property, or clothing lost, damaged, destroyed, or stolen.
3. Prior to completion, storage and adequate protection of all material and equipment will be the Vendor's responsibility.

PRICING

1. Lump sum amount must include all direct and indirect costs to complete the project.

Appendix A. FAA Contract Tower Minimum Equipment And Facilities List

The FAA Contract Tower (FCT) Minimum Equipment and Facilities List (MEL) identifies those items that are required for any “new start” or existing non-Federal tower seeking acceptance into the FCT program. Furthermore, the MEL applies to any new control tower that will replace an existing tower (replacement tower) that is already a participant in the FCT program. All FCTs are expected to be fully compliant with this MEL. Existing towers that are already participants in the FCT program and do not meet the requirements of this MEL must develop an action plan that addresses and resolves the deficiencies within 5 years. For those locations that do not have the structural capacity to meet the infrastructure requirements, a waiver request must be submitted.

Exclusion of any piece of equipment from the FCT MEL should not be considered as justification for removal, decommissioning, or failure to maintain/replace existing equipment. Installation or removal/decommissioning of equipment which interfaces with the National Airspace System requires a Safety Management System (SMS) review. Additional equipment may be required based upon actual or anticipated operations. All items on this list must be calibrated properly and maintained in good working condition.

1. Communications Equipment.

a. Voice switch communication equipment, with direct access line to controlling instrument flight rules facility, capable of radio and telephone ATC communication. This must include the capability of headset use and instructor/student override capabilities.

b. One headset per controller and one handset per position with appropriate spares.

c. Very High Frequency (VHF) radios, as required, to support level of traffic; i.e., Local Control, Ground Control, Automatic Terminal Information Service, Clearance Delivery, and Emergency; one transmitter and one receiver for each frequency. Handheld radios are not authorized as primary units.

d. Tunable emergency transceiver with backup power supply (to provide backup VHF communication).

e. A multi-channel, multi-line digital voice recorder system with a remote alarm, for continuous unattended recording of each position used for receiving/transmitting ATC clearances and ATIS. It must meet the requirements of FAA Orders JO 7210.3 and JO 8020.16.

f. An administrative telephone line with long distance capability and handsets in the operating and administrative quarters. To support a single person on duty, contingency plan and emergency operations, the administrative line must be available in both the office and tower cab environment.

g. Telecommunication requirements to sustain high speed internet communication, to include the following:

- 1) FTI Mission Support connection and Router;

2) Local Area Network consisting of a network switch, an Uninterruptible Power Supply (UPS), a rack with patch panel, and network cabling to the wall jacks.

Note: Requires reimbursable agreement with FAA.

h. Alert system to notify airport emergency equipment operator.

i. Automatic Terminal Information Service (ATIS), (for towers with 50,000 or more annual operations).

j. ASOS Automatic Terminal Information Service (ATIS) Interface Unit (AAIU).

Note: Facilities equipped with an ATIS and an automated weather system with broadcast capability must be equipped with an FAA-approved interface switch which inhibits the automated system from broadcasting the weather while the FCT is open.

2. Weather Equipment.

a. Manual Limited Aviation Weather Reporting Stations (LAWRS) stations must possess the following primary weather reporting equipment in accordance with FAA Order JO 7900.5, JO 7210.3, and JO 7230.8:

1) Wind Measuring Equipment (Speed and Azimuth), must be visible from each operational position.

2) Altimeter (in accordance with FAA JO 7210.3 paragraph 2-10-3), must be visible from each operational position.

3) Temperature

4) Dew Point

b. Automated LAWRS stations must possess the following equipment to provide augmentation/backup of the automated weather system with SPECI capability in accordance with FAA Order JO 7900.5, JO 7210.3 and JO 7230.8:

1) Operator Interface Device (OID) located in the tower cab.

2) Wind Measuring Equipment (Speed and Azimuth), independent of the automated weather system, must be visible from each operational position.

3) Altimeter, independent of the automated weather system, must be visible from each operational position.

4) Temperature Equipment, independent of the automated weather system.

5) Dew Point Equipment, independent of the automated weather system.

3. Operations Floor Equipment:

- a. Two pair of operable binoculars (7x50 or greater).
- b. Signal Light Gun with a back-up power source.
- c. At least one digital 24-hour time source with hours-minutes-seconds display visible from operating positions.
- d. Manual or automated traffic counting device.
- e. Controller Chairs – safety issues within the controllers' work area require:
 - 1) Chairs must be Electro Static Discharge (ESD) compliant.
 - 2) Chairs must meet the high intensity use 24/7 standard.
 - 3) Chairs must have fully adjustable mechanisms that are easy and safe to manipulate.

4. Non-Operations Equipment. Appropriate non-operational space, furniture, and equipment must be provided, including:

- a. Lockable Air Traffic Manager's office with a locking file cabinet.
- b. Training/break room with appropriate desk, chairs, and table.
- c. Refrigerator.
- d. Microwave.
- e. Dish Sink.

5. Building Equipment/Specifications.

- a. Generator for any ATCT with an elevator.
- b. Airport lighting controls located in the tower cab, including on/off switch for rotating beacon.
- c. FAA-approved window shades for all tower cab windows. (Must not have any imperfections that would obstruct vision.)
- d. Position lighting with rheostat control for each operating position and tower cab administrative area.
- e. Restroom one floor below the tower cab.
- f. Floor covering must be ESD resistant.

Note: Other floor grounding apparatus may be necessary depending upon specifications of the electronic equipment installed.

Exhibit C - Price Proposal CONTRACT#AIR/220085**Wolen, LLC****ITB# AIR/220086 Air Traffic Control Tower Equipment Replacement Phase II**

ITEM	DESCRIPTION	UOM	LUMP SUM AMOUNT
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Replacement ATCT communications equipment to include:

1	Very High Frequency (VHF) radios, as required, to support level of traffic; i.e., Local Control, Ground Control, Automatic Terminal Information Service, (Removed from scope: Clearance Delivery, and Emergency); one transmitter and one receiver for each frequency. (Not included in scope: Handheld radios are not authorized as primary units). Must include necessary antennas. (Replace current system)	LS	\$ 52,261.00
2	Tunable emergency transceiver with backup power supply (to provide backup VHF communication). (Replace current system)	LS	\$ 5,530.00
3	Automatic Terminal Information Service (ATIS), (for towers with 50,000 or more annual operations). (Replace current system)	LS	\$ 9,050.00
4	Two pair of operable binoculars (7x50 or greater). (Replace current)	LS	\$ 228.00
5	Signal Light Gun with a back-up power source. (Replace current)	LS	\$ 5,640.00
6	Two digital 24-hour time source with hours-minutes-seconds display visible from operating positions. (Replace current)	LS	\$ 1,924.00
7	Manual or automated traffic counting device. (Replace current)	LS	\$ 288.00
TOTAL LUMP SUM COST			\$ 74,921.00

OPTIONAL ITEMS PRICING: (Not included In Total Lump Sum Amount)

ITEM	DESCRIPTION	UOM	UNIT COST
8	Per Hour Cost - Post Warranty Service and Maintenance (ROUTINE)	HR	\$ 120.00
9	Per Hour Cost - Post Warranty Service and Maintenance (EMERGENCY)	HR	\$ 180.00

Wolen, LLC**DATE: 3/10/2022****AIR/220086 Air Traffic Control Tower Equipment Replacement Phase II****Submittals**

Item	Description	Manufacturer	Model #	Quantity
1	VHF Radios	Jotron	TR-7750	2
	Antenna- dual VHF	TACO	D5072	1
	Antenna- single VHF	TACO	D5076	1
2	Tunable Emergency Transceiver	Jotron	TR-810MP	1
3	Automatic Terminal Information Service:			
	Announcer	Interalia	SBX3	
	Transmitter	Jotron	TA-7650	1
5	Binoculars, 7 x 50	Nikon	Aculon	2
6	Signal Light Gun	PPS Technical	SLG-LED-UK	1
7	Time Displays	ESE	LX-993U	2
8	Traffic Counters	Denominator	1 x 7	1



TR-7750 Transceiver



RA-7203 Receiver



TA-7650 Transmitter

DESCRIPTION:

The 7000 series includes the TR-7750 Transceiver, the RA-7203 Receiver and the TA-7650 Transmitter. The Jotron Receivers and Transmitters are fully solid-state designs based on a Software-Defined Radio (SDR) concept with a Digital Signal Processor (DSP) as the core element.

The ultra-fast DSP provide all signal handling between the IF signal format and the analogue audio signals and vice versa. This includes filtering, de-modulation, modulation, signal levelling and more. The DSPs also handles all the control signalling within the receiver and transmitter units, as well as I/O signals to external equipment. The units are software defined and can easily be upgraded with new features or functionality, if required. The units can be controlled either locally or remotely using several communication protocols including USB, RS232 and multiple IP protocols over the two Ethernet (LAN) interfaces.

The radios are specifically designed for use as base stations for aeronautical communication and are tuneable over its full operating range, they can be used for AM voice and optionally AM-MSK data, FM voice and D8PSK data (depending on model),

The radio design is modular, and they can be used as separate transmitters and receivers or combined as transceivers.

The radio units, when being a part of a properly designed radio system, is designed to comply with, and in most cases outperform the radio system requirements defined in ICAO annex 10 and equivalent standards for ground to air communication.

Technically the radio units meet or outperform all radio requirements specified in ETSI EN300676 (VHF), EN301841 (VDL2) and EN301489 (EMC).

FEATURES:

- Dual LAN
- Excellent RF performance in congested areas
- Advanced digital signal processing (DSP)
- Remote control through Ethernet
- Easy set-up and control
- AM and VDL mode 2 operation
- Compact design
- In-band signalling for PTT and squelch
- Continuous duty cycle
- Offset carrier
- VoIP according to ED-137
- Start-up time <10 seconds
- Parallel operation (analogue and VoIP Interfaces)

GENERAL SPECIFICATION, TR-7750:

Parameter	AM 25 kHz	AM 8.33 kHz	AM MSK	D8PSK
Frequency range	117.975 to 137.000 MHz (up to 144.000 MHz or 156.000 MHz are optional)			
Frequency stability	+/- 1.0 ppm, <±0.3 ppm@ 0°C to +40 °C (ambient temperatures)			
RF Modes	6K80A3EJN	5K00A3EJN	13K0A2D	14K0G1DE
Bit rate			2.4 kbit/s	31.5 kbit/s
Keying time	< 25ms		< 25ms	
Audio Frequency response	300-3400 Hz	300-2500 Hz		
Data ports	USB, RS232, RS485			
Ethernet ports	2 x 100 Mbit network ports on each transmitter and receiver unit. The two ethernet ports operate isolated and independent of each other with separate IP and MAC addresses. Both ports can be used with IPv4 or IPv6 (optional). All application protocols such as SNMP and VoIP are available on both ports.			
Protocols	UDP/IP: SNMP v1, SNMP v2, SNMP v3 (with encryption and authentication), RTP, SIP, NTP, TFTP, DHCP, RTSP TCP/IP: Remote control (Jotron), RTP, SIP, HTTP, RTSP Serial: RS232, RS485 See Protocol description documents for additional information			
BITE monitoring	All relevant parameters for Transmitter and Receiver. Ref. BITE below.			
Pre-set channels	99			
RF impedance	50Ω, N-connector			
Temperature range	-20°C to +55°C (operating) -40°C to +70°C (storage)			
Humidity	95% @+40°C (non-condensing)			
AC operating voltage	85 to 264VAC, 47-63Hz			
DC operating voltage	Receiver, RA-7203: 19.0 – 31.2VDC Transmitter, TA-7650 w/PSU-7006 (standard): 19.0-31.2VDC Transmitter, TA-7650 w/PSU-7007 (optional): 19.0-31.2VDC (More detail on operation conditions under each module)			
Start-up time	<10s from power on until transmitter/receiver is available for use on all audio and control interfaces, including the IP interface.			
Applicable Standards				
AM, AM-MSK	ICAO annex 10, ETSI EN 300676			
VDL mode 2	ETSI EN-301841 - 1			
Voice over IP	EUROCAE ED-137 (B, C) part 1,4 and 5. 4 or 10 (optional) independent VCS voice streams available. 4 recorder streams available. Adaptive jitter buffer for minimum delay, packet loss concealment, G.711 and G.729 (optional) codecs dynamic delay compensation, linked sessions, receiver multicast			
EMC	ETSI EN-301489 part 1/22, FCC rule 15B and 87, IC RSS-141			
Random Vibration	ETSI EN 300019-2-2(V2.1.2) method: IEC 60068-2-64			
Bump	ETSI EN 300019-2-2(V2.1.2), method: IEC 60068-2-29			
Free Fall	ETSI EN 300019-2-2(V2.1.2), method: IEC 60068-2-32			
Safety	IEC 60950			
RoHS	IEC 63000:2018			

TECHNICAL SPECIFICATION Transmitter Unit, TA-7650:

Parameter	AM 25 kHz	AM 8.33 kHz	AM MSK	D8PSK (VDL 2)
Output power	1 - 50W, adjustable in 0.1 dB steps (30.0 up to 47.0 dBm)			Max 25W
VSWR	1 : Infinity, protected against shorted and open circuit			
Adjacent channel power	>70 dBc	>70 dBc	>70 dBc	>65 dBc
Modulation level	up to 95% AM, 5kHz FM (optional)			
Distortion	< 2% @85% modulation			
Amplitude frequency response	300 – 3400 Hz	300-2500 Hz	1200/2400 Hz	
Group Delay			<10µs	
In band spurious emissions	≤ -112 dBc (-65 dBm @ 50W output)			≤ -112 dBc
Harmonic emission	≤ -105 dBc (-58 dBm @ 50W output)			≤ -105 dBc
Intermodulation attenuation	≤ -55 dBc (TA-7650), 3.order intermodulation (EN300676,7.8)			≤ -55 dBc
Power attack and release time	<5 ms attack, <5 ms release time			<190 µs, <300µs
Keying Time	Attack time: <25ms, Release time: <5ms (EN302 617)			<0.5 ms
Keying Transient Behaviour	≤ -48 dBc, (EN300676, 7.10)			
Distortion on monitor output	≤ 2%, typically <0.5%			
Line input	600Ω, -40 to +10dBm – adjustable sensitivity			
Monitor line output	600Ω, -46 to 0dBm (Depending on input level. Relative to RX in and TX monitor level)			
AGC (VOGAD) range	-40 to +10 dBm on line input, threshold level is adjustable			
Keying options	Mic. connector. Remote: GND, +/- voltage, Line loop, SNMP, TCP/IP, RTP header			
Signal/Noise (Hum and noise)	>40 dB			
Timeout	5 s. to 15 min (900 s.) in 5 s. steps (1s from SNMP)			
In-band keying	User configurable tones: 2000-4000Hz in 1 Hz steps			
Carrier offset	2,3,4 or 5	2		
System constellation error				EVM <3%
Duty cycle	100% continuous operation @ambient below 40°C			
DC operating voltage, PSU-7006 (Standard Power Supply)	19.0 – 31.2 VDC, negative ground. Output power: 50W (nominal)@DC≥26.0VDC, within 2dB@21.6VDC. Low power @DC<21.6VDC			
Power consumption	<250VA @50W output			
Heat dissipation	<10W@Idle, <180W@50W output power			
MTBF	Calculated: 10 years (MIL-HDBK-217F), Documented field experience: > 30 years			
MTTR	<30 minutes at lowest replaceable unit			
Dimension Transmitter unit (W) x (D) x (H)	142mm (28TE) x 230mm x 128mm (3U)			
Weight Transmitter unit	3.0 kg			

TECHNICAL SPECIFICATION Receiver Unit, RA-7203:

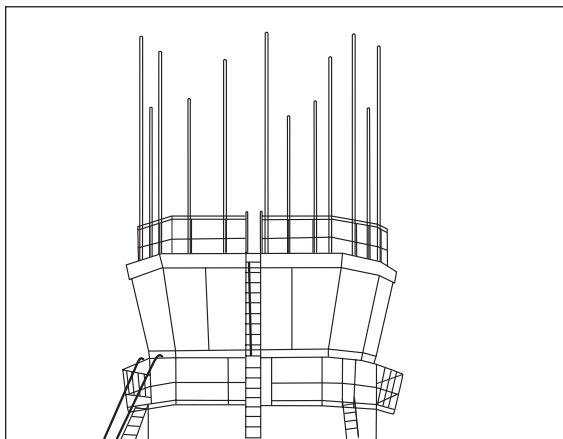
Receiver unit	AM 25 kHz	AM 8.33 kHz	AM MSK	D8PSK (VDL2)
Sensitivity, AM@1 μ V/30% pd	>12dB SINAD (CCITT)			
Sensitivity, VDL (BER > 10 ⁻³)				< -103 dBm
Harmonic distortion	<2% @90% AM (line output), Typically <1%			
Amplitude frequency response	300 – 3400 Hz	300-2500 Hz	1200/2400 Hz	
Signal / Noise	>55dB @up to +10 dBm input, 90% modulation			
Effective bandwidth	+/- 10kHz	+/- 3.5 kHz	+/- 10kHz	+/- 10kHz
Typical adjacent channel rejection	80dB	70dB	80dB	70dB@2.ch
Inband spurious rejection	>95dB			
Intermodulation attenuation	>80dB			
Image frequency rejection	>100 dB			
IF frequency rejection	>110 dB			
Blocking/desensitisation	≥106dB @1MHz offset, >110 dB out of band signals			
Squelch system	Combination of RF level and Signal/Noise (digital coherent squelch)			
Squelch RF level	-5 dB μ V to +42 dB μ V (-112 dBm to -65 dBm)			
Squelch Signal/Noise	5 dB S/N to 20dB S/N @30% modulation			
Squelch activation time	<20ms			
Squelch hysteresis	Typical 2-4 dB			
Squelch mute level	≥82 dB			
Cross modulation rejection	>110 dB @ 1 MHz frequency offset			
Dynamic range	>130dB (-110 to +23 dBm input signal)			
Audio AGC (AAGC)	30% - 90%, < 0.1dB variation in output audio signal			
AGC range	-107dBm to +20dBm			
AGC attack time	<50ms		<40ms	
AGC decay time	<200ms		<50ms	
Group delay (Data)			<20 μ s	
In-band squelch signal	User configurable tones: 100-5000 Hz in 1 Hz steps (Squelch open, closed or both) User configurable levels			
Line output	600 Ω , -36 - +10dBm @90% modulation			
Permissible RF input level	5V EMF			
DC operating voltage	19.0 – 31.2VDC, negative ground. Full performance over the operating range.			
Power consumption	< 6VA			
Heat dissipation	<6 W			
MTBF	Calculated: >10 years – Documented field experience: >30 years			
MTTR	<30 minutes at lowest replaceable unit			
Dimension Receiver unit (W) x (D) x (H)	71mm (14TE) x 230mm x 128mm (3U)			
Weight	1.7 kg			

TECHNICAL SPECIFICATION Power Supply Units, PSU-7006/7007/7008/7009:

Power Supply Unit	PSU-7006 (standard power supply for VHF transmitters and UHF 30W transmitters)	PSU-7007 (optional power supply for VHF transmitters and UHF 30W transmitters)	PSU-7008 (standard power supply for UHF 50W transmitter)	PSU-7009 (optional power supply for UHF 50W transmitter)
Supply voltage, AC	85 to 264VAC, 47-63Hz			
Output voltage @AC	+28 VDC regulated— input to transmitter unit	+28 VDC regulated	+28 VDC regulated— input to transmitter unit	+28 VDC regulated
DC input (backup power)	19.0 - 31.2VDC negative ground			
DC output @DC	Equals DC input when AC is not present	+28 VDC regulated when AC is not present (built in DC/DC converter)	Equals DC input when AC is not present	+28 VDC regulated when AC is not present (built in DC/DC converter)
Max load	9A average, 18A peak		18A average, 36A peak	
Heat dissipation	<15W@Idle, <40W@30W TX output power	<15W@Idle, <40W@50W TX output power	<30W@Idle, <50W@50W TX output power	
MTBF	Calculated: >10 years Field experience: >30 years			
MTTR	<30 minutes at lowest replaceable unit			
Dimension PSU unit (W) x (D) x (H)	71mm (14TE) x 330mm x 128mm (3U)			
Weight	1.65 kg	1.9 kg	1.75 kg	2.0 kg

TACO

D5000 Series: FAA Muldipol Antennas



Features

- Rugged lightweight construction • Transportable
- Compact • Combination of UHF and VHF
- High isolation between antenna elements
- Metallic Base (Fibreglass Base optional - see D4000 series)
- DC Grounded Dipoles (No DC Ground optional - see D4000 series)

Specifications

Environmental

- Built to Military standards
- Rain, salt-fog, sand, dust and fungus to MIL-STD. 810A & B
- Temperature, barometric pressure and humidity to MIL-STD. 210 & 210A

Electrical

- Isolation (min.) 30.0 dB
- Polarization Vertical
- Omni Directional: ± 1.0 Uniformity (azimuth)
- VSWR (max.) 2:1
- Terminals "N" Female
- Terminal Impedance 50 Ohms
- Applied Power 100 W
- Vertical Beam Deviation $\pm 10^\circ$

The MULDIPOL™ Multiple Dipole Collinear Array concept has been specifically developed by TACO for ground-air-ground, air traffic control and associated vehicular and base communications applications. This omni directional concept employs a unique method of shielding the feed cables to improve radiation pattern characteristics. The MULDIPOL™ also has a high degree of isolation between discrete elements within a closely spaced array. The result is a small, rugged, easy to install antenna. The lightweight and compact design minimizes space and lends itself to tactical transportable use in the most hostile environments. A minimum of 30 dB isolation is realized between any two antenna elements in every MULDIPOL™ model. The low profile of this antenna plus the resulting decrease in the number of antennas required at any tower site also gives a much improved radiation pattern coverage.

Operation

The process employed in the TACO antennas incorporates the patented MULDIPOL™ concept. The utilization of this technique results in a unit which has excellent "broadband" halfwave dipole characteristics over the entire operating frequencies. The desired "figure eight" radiation pattern is generally constant throughout the band. Through "broadband" suppression of extraneous currents upon the transmission line, the undesirable "Clover Leaf" pattern is avoided.

TACO Air Traffic Control FAA Antennas World Wide Use

MODEL	VHF (MHz)	UHF (MHz)	GAIN (dBic)	# OF OUTPUTS	HPBW DEGREE	MOUNTING DIAMETER	LENGTH INCHES	LENGTH CM	WEIGHT LBS	WEIGHT KG	COLOR	WIND LOAD WITH .5 ICE AREA (sq.ft.)
	118-136	225-400										
D5061A1	XX		4.0	1	40	2.5" IPS	125.5	318.75	19.0	8.64	White	2.1
D5062A		XX	4.0	1	40	2.5" IPS ^①	65.0	165.0	13.5	6.14	White	1.1
D5071	X	XX	1.0	3	75	2.5" IPS	115.50	293.37	16.8	7.63	White	1.8
D5072	XX		1.0	2	75	2.5" IPS	150.0	381.0	18.0	8.18	White	2.3
D5073	X	X	1.0	2	75	2.5" IPS	84.0	213.50	12.0	5.46	White	1.3
D5074		XX	1.0	2	75	2.5" IPS	85.0	216.0	12.0	5.46	White	1.3
D5076	X		1.0	1	75	2.5" IPS ^①	51.0	130.0	6.0	2.73	White	0.7
D5077		X	1.0	1	75	2.5" IPS ^①	31.5	80.0	4.75	2.16	White	0.4
D5078		XXX	1.0	3	75	2.5" IPS	115.50	293.37	16.8	7.63	White	1.8

X – Denotes number of active elements ① 1.25 inch (3.175 cm) IPS Pipe Mount with Optional Adapter. (2.5 inch IPS = 6.35 cm IPS)

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TR-810

MULTI PURPOSE VHF/AM TRANSCEIVER



www.jotron.com



TR-810

- ETSI and FCC approvals
- 10W output when used as vehicle installation or desktop mount
- Wide DC input voltage (10 to 28V)
- Fast recall of 3 preset channels
- A visually pleasing OLED display
- Detachable front panel
- Built-in loudspeaker (optional external loudspeaker)
- Multiple microphone input connections
- Voice recorder output
- External battery unit with battery indicator
- Several mounting options
- 25kHz/8.33kHz channel separation



TR-810 VHF AM MULTI PURPOSE RADIO

The TR-810 is a lightweight, rugged and flexible radio.

There are several applications of the TR-810; desktop radio (TR-810DE), vehicle radio (TR-810VE), man portable radio (TR-810MP), last resort radio (TR-810LR) or a 19"/2U enclosure suitable for rack mounting.

Detachable Operator Control Panel (OCP) offers flexible installation. Communication between the two units occurs via a CAT5 cable.

TR-810VE Transceiver Vehicle version

Any vehicle with 12 or 24VDC supply can accommodate the TR-810. The following items are included; microphone, interconnection cables, external loudspeaker, vehicle antenna and a 5 meter long extension cable (between radio and OCP, to separate the radio and OCP if mounting elsewhere in the vehicle).

TR-810DE Transceiver Desktop version

A desktop version is supplied with an external AC/DC adaptor. The AC/DC adaptor covers 100 to 240VAC. The following items are included; microphone, bracket for console mounting and an antenna cable connector.

TR-810LR Transceiver Last Resort version

A last resort radio is similar to a desktop radio,

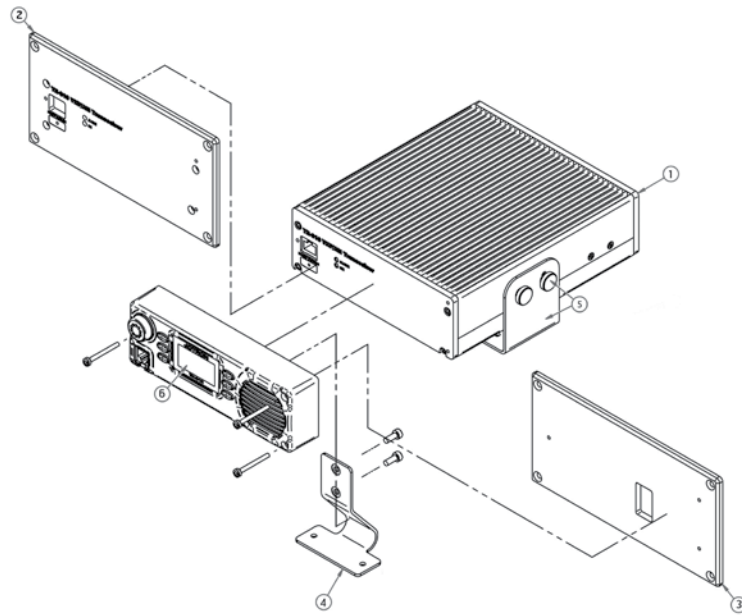
but contains a Lithium Ion battery pack supplying the radio with DC voltage if AC power fails. The battery status is monitored on the battery pack or on the TR-810 display. Battery capacity is 72Wh therefore, this radio will last 7.5 hours in 10% Tx/ 30% Rx/ and 60% idling duty cycle at 10W output power. Up to 9.5 hours can be achieved if output power is reduced to 2.5W.

TR-810MP Transceiver Man Portable version

This is a portable version of the TR-810, where the radio with an antenna bracket is fitted into a carrying bag. The carrying bag has 2 pockets; one containing a charger and cable and the other a microphone. The battery capacity is the same as the TR-810LR.

Easy to install:

1. 82769 - Transceiver module
2. 84082 - Front cover plate w/flange
3. 84416 - Console mounting plate front module
4. 84391 - Front bracket module w/screws
5. 84084 - Console bracket
- 84086 - Lock screws
6. 82768 - Front module (OCP)



TR-810DE Transceiver Desktop version



TR-810MP Transceiver Man Portable version



TR-810VE Transceiver Vehicle version



TR-810LR Transceiver Last Resort version





▶ TR-810

MULTI PURPOSE VHF/AM TRANSCEIVER

APPROVED TO THE FOLLOWING STANDARDS:

Radio performance:

- EN 300 676 V1.3.1:

EMC:

- EN 301 489-1 V1.5.1 : EMC for radio equipment

- EN 301 489-22 V1.3.1 : Specific conditions VHF

aeronautical equipment

- IEC 60945: Maritime navigation and radio communication equipment.

FCC:

- Part 87 and RSS 141

Safety:

- According to EN/IEC 60950

Vibration and shock:

- EN 300-019-2-2 : Transportation

- EN 300-019-2-5 : for ground Vehicle installations,

- EN 300-019-2-7 : for Portable and non-stationary use



Agent/Distributor:

Jottron AS reserves the right to change the design and/or specifications at any time without prior notice. Reservations are also taken towards any general errors that may occur.

v.6

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SPECIFICATIONS

Frequency range:	118-137 MHz
Channel separation:	25 kHz / 8.33 kHz (selectable)
Frequency stability:	± 1.0ppm
Frequency selection:	25/8.33 kHz steps
Preset channels:	63
Type of modulation:	AM (A3E)
Audio response:	25kHz: +1/-3 dB rel.to 1 kHz, 300-3400 Hz 8.33kHz: +1/-3 dB rel.to 1 kHz, 300-2500 Hz
Audio output:	Built in speaker: > 4W
Headphone:	8 - 32 Ω > 100mW
External speaker:	> 4W @ 4 Ω, adjustable from front panel
Mic input:	Dynamic/Electret. Sensitivity 1.9mV
Monitor:	Unbalanced 600 Ω. -7dBm @ 70% modulation
Antenna connector:	50 Ω, BNC-connector
Operating temperature:	-20 to +55°C
Storage temperature:	-40 to +70°C
Operating voltage:	12 - 28VDC ±10%
Power consumption:	10W, 80% modulation: < 60 W
Receiver section	
Sensitivity:	10 dB SINAD at 1 μV pd, 30% modulation
Squelch:	Adjustable from min.1 μV pd, to 25 μV pd., Opening/closing:<50 ms
THD:	<5%, 90% mod, 100 μV, 1kHz
S/N ratio:	>45dB, 100 μV, 30%, 1kHz
Adjacent channel rejection:	>80dB, 25kHz/>65dB, 8.33 kHz
Cross modulation:	>90dB @ 1MHz offset
Blocking:	>95dB @ 1MHz offset
Spurious response rejection:	>80dB
Intermodulation immunity:	>80 dB
Image frequency rejection:	>100dB
If rejection:	>100dB
Permissible input level:	5V EMF
AF AGC:	<3dB change in output level for modulation 30% - 90%
Conducted spurious emissions:	<-70 dBm
Effective Acceptance Bandwidth:	<6dB @ ± 8.5 kHz, 25 kHz , <6dB @ ± 4 kHz, 8.33 kHz channels
Transmitter section	
Modulation:	AM up to 90%. Modulation depth adjustable from front panel
Standing wave ratio:	1 : infinity
Output power:	10W ± 1 dB . Adjustable. (40WPEP) Output is reduced automatically when the VSWR reaches approx 3:1
Keying time:	<20 msec
Release time:	<10 msec
Keying:	Mic connector s
LF compression (VOGAD)	30dB with less than 10% change in modulation
Limiter:	Limiting amplifier prevents over modulation
Distortion:	Less than 5% at 90% modulation
Hum and noise level:	Better than 40dB below at 90% modulation.
Duty cycle:	30% continuous operation at ambient temperature below 55°C
Intermodulation attenuation:	>40 dB with a frequency offset of ± 150 kHz
Battery backup	
Operating temperature:	-20 to +55°C
Storage temperature:	-40 to +70°C
Operating voltage:	12 - 28VDC ± 10%
Battery type:	Lithium-ion (SAFT)
Battery capacity:	72Wh - Approx 11 hours operation (10/90 duty cycle)
Operating time @10W:	Approx 7.5 hour. (10/30/60 duty cycle)
Operating time @ 5W:	Approx 8.5 hour. (10/30/60 duty cycle)
Operating time @ 2.5W:	Approx 9.5 hour. (10/30/60 duty cycle)
Power consumption	
- Charging:	< 80W
- Charging + transmit:	<140W

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Automatic Terminal Information System (ATIS) SBX2

Exhibit D - Proposed Material List - CONTRACT# AIR/220086



OPTIMIZE YOUR OPERATION

Interalia's Automatic Terminal Information System (ATIS) is an audio recording system used at airports to transmit repetitive information such as: wind speed, visibility, air temperature, runway availability, wind direction and runway conditions to be updated as often as required, then continuously broadcasted 24 hours-a-day.

ATISSBX2 BENEFITS

- Continuous play information access via
 - Control tower radio transmitter channel
 - Telephone call in
- Flexibility to record messages locally and remotely
 - Remote port access over telephone line
 - Network port
 - Front panel handset
- Flexible programming options
 - Remote - XMUCOM+ Administration software
 - Local - Front Panel
- Record messages without interrupting the broadcast
- Messages retained even if power failure occurs
- Configuration flexibility of 8 multi function ports



- For additional features/expansion requirements check ATIS XMU+

Questions? Visit www.interalia.com or contact us at:

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D-12

Technical Specifications

Audio Storage:

- 60 minutes of recording time
- .wav file format
- 8 bit compression/8K sampling rate
- Mono sound
- CCITT μ -Law Format

Communication Ports:

- 1 Front panel handset port: 220 ohms
- 1 Remote access phone port (RJ-11)
- 1 Network port (RJ-45)
- 1 Modem port

Analog Ports:

- 8 ports – RJ-45

Messages:

- 999 messages

Power Supply:

- 110/240 VAC, 2 A/1 A, 60/50 Hz, 20 W

Approvals:

- FCC, CS-03, CSA/US, CE, A-Tick

Dimensions:

- 1.75 in. (4.5 cm) H x 17.5 in. (44 cm) W
x 9.25 in. (23.5 cm) D

XMUCOM+ Administration Software:

- Windows XP or Win7

Message Manager: (Optional)

- Windows XP or Win7
- Sound Card



Delivering Messages: Simply. Clearly. Reliably.



7000-series AM / VDL2

TR-7750 Transceiver

TA-7650 Transmitter

RA-7203 Receiver



www.jotron.com



► Jotron 7000 Series

Excellent RF performance in congested areas
 Advanced digital signal processing (DSP)
 Remote control over Ethernet /RS232 /RS485
 No tuneable parts
 Easy set-up and control
 AM and D8PSK operation
 Compact Design
 Keying options
 Continuous duty cycle
 Offset operation
 VoIP
 Start-up time <6 sec (ready on all interfaces)
 IP - seamless operation on all interfaces (mic, E&M and VoIP)

TR-7750 Transceiver



TA-7650 Transmitter



RA-7203 Receiver



Excellent RF performance in congested areas

Careful analogue design is the key issue to achieve the best collocation capabilities possible. The 7000 series of radios is designed with no compromises regarding the synthesizers and analogue front end. This together with a linear power amplifier design, strictly controlled by an ultra fast digital signal processor, makes the radio the ultimate choice for professional G/A applications.

Advanced digital signal processing (DSP)

The receiver and transmitter use the most powerful digital signal processors to perform the intermediate frequency (IF) and the audio frequency (AF) filtering. In addition, all the modulation and demodulation tasks are performed in the signal processor. This means improved product control, less tuneable parts and improved reliability.

Remote control over Ethernet / RS232 / RS485

The radio units have alternative ways of being remotely controlled, making them easy to fit into an existing infrastructure already available on the site. The radio units are controlled using SNMP v2 (Simple Network Management Protocol) over UDP (User Datagram Protocol), this together with 100BaseT Ethernet interface makes it easy to control the radios. Either by using Jotron's dedicated Radio Access and Control System - RACS III or by a standard SNMP management application. Alternatively, setup and control may be done using either TCP/IP on the ethernet, or the RS232/RS485 ports. Built in web-server for historical and current status of the radios. Radio support DHCP and IPv6. The radios are also fully compliant with the ED-137 standard.

No tuneable parts

There are no tuneable parts inside the radio units. No tuning, or special tools are necessary when changing frequency / modulation or to maintain the radio.

Easy set-up and control

All parameters can be set and adjusted electronically from the front panel or from the remote interface. The front panel contains a graphical display, menu buttons and switches that are used to set up the radio – no external equipment like a PC or a signal generator are necessary to control the frequency or to adjust any parameter internally in the radio.

AM and D8PSK operation

The radio can be operated in the following modes: AM voice,



AM data (ACARS) or D8PSK (VDL mode 2). The AM channel bandwidth for voice operation (8.33 or 25 kHz) is automatically selected by the frequency choice. AM-MSK mode is used when the radio is operated as the physical layer of an ACARS ground station. The D8PSK mode is used when the radio is operated as the physical layer of a VDL ground station.

Compact Design

The receiver unit is a complete stand-alone receiver with built in power supply weighting only 1.7 kg. The transmitter unit weights only 3.0 kg. A complete transceiver consists of 3 units (transmitter, receiver and power supply) and the total weight is only 6.0 kg. The modular and compact design makes the radio the perfect choice for distant sites that are hard to reach.

BITE system that detects failures

The BITE system continuously monitors vital points in the radio units. An error is instantly detected and reported in multiple ways. The unique main/standby concept of the Jotron 7000 series can automatically switch the operation to a standby set upon an error, providing seamless communication for the user.

Keying options

Keying options available in the transmitter includes positive and negative voltages (up to 50V), keying to ground and phantom keying on the audio line. In addition the keying option includes in-band tone signalling both ways: ptt and squelch with configurable tones for easy integration with any VCCS system.

Continuous duty cycle

The transmitter is designed for continuous duty cycle. This makes the radio the perfect choice for VOLMET and ATIS applications requiring continuous transmission. The unique cooling concept used on the transmitter, keeps the temperature low, and the operational lifetime of the equipment high.

Offset operation

Setting the offset carrier is just as easy as setting the frequency of the transmitter. Up to 4 carriers offset is available using the standard temperature controlled oscillator in the transmitter. 5 carrier offset available upon request.



TECHNICAL SPECIFICATIONS

General – All units	AM 25 kHz	AM 8,33 kHz	AM MSK	D8PSK
Frequency range	118-137 MHz (118-156 MHz optional)			
RF Modes	6K80A3EJN	5K00A3EJN	13K0A2D	14K0G1DE
Keying time	< 5ms	< 5ms	< 5ms	< 500uSec
Bit rate			2,4 kbit/s	
Frequency response	300-3400 Hz	350-2500 Hz		
Frequency stability	< 1.0 ppm			
Data ports	RS232, RS485, 10/100 BaseT			
Protocol	SNMP, RTP, TCP/IP, HTTP, TFTP, DHCP and IPv6			
BITE monitoring	VSWR, Voltages, Currents, Levels, Lock detect, Temperature, Output power, Reflected power, a.o.			
Supply voltage, AC	115/230VAC +15/-10% / 50-60Hz			
Supply voltage, DC	21.6 – 31.2VDC negative ground			
Start-up time	< 6 sec.			
MTBF	> 10 years / unit			
MTTR	< 30 minutes at lowest replaceable unit			
Transmitter (TA-7650)	AM 25 kHz	AM 8,33 kHz	AM MSK	D8PSK
Output power	1-50W	1-50W	1-50W	1-25W
Adjacent channel power	> 70 dBc	> 60 dBc	> 70 dBc	> 65 dBc
Modulation level	up to 95%			
Distortion	< 3%			
Line input	600Ω, -36 - +10dBm			
Intermodulation protection ratio	≥40 dB when interfering signal is decoupled with at least 30 dB			
Tx timeout	15s to 5 min/1s step			
Inband keying	Configurable tones: (2000-4000Hz in 1Hz step) and threshold level (-40 to -10dBm)			
Carrier offset	2, 3, 4 or 5			
Differential group delay			< 60μs	
Power rise and release time				< 190μs, < 300μs
System constellation time				EVM < 3%
VSWR	1: Infinity			
Duty cycle	100% continuous operation			
Power consumption	< 250VA			
Dimension Transmitter unit	142mm(28TE)(W) * 230mm(D) * 128mm (H), Weight 3.0 kg			
Dimension PSU unit	71mm (14TE)(W) * 303mm(D) * 128mm (H), Weight 1.3 kg			
Receiver (RA-7203)	AM 25 kHz	AM 8,33 kHz	AM MSK	D8PSK
Sensitivity analogue @1μV/30% pd	10dB SINAD (CCITT)			
Sensitivity VDL data @2μV/pd input				BER<10-3
Adjacent channel rejection	> 80dB	> 70dB	> 80dB	< 70db@2.ch
Intermodulation	> 80 dB			< 60dB
IF bandwidth	+/- 11kHz	+/- 3.5 kHz	+/- 11 kHz	+/- 11 kHz
Image and IF frequency response	> 110 dB			
Squelch operation	Adjustable -107dBm, 30dB / S/N + carrier override Activation time < 20ms Hysteresis < 6dB			
Audio AGC	30% - 90%, < 1dB variation			
Signal / Noise	> 45dB on any output @100μV, 30%			
Distortion	< 5% @ 90% modulation			
AGC range	-110dBm to +5dBm			
AGC attach time	< 50ms		< 40ms	
AGC decay time	< 250ms		< 60μs	
Differential group delay			< 60μs	
Inband squelch signal	Configurable tones: 100-5000Hz			
Line output	600Ω, -40 - +20dBm @90% modulation			
Harmonic distortion	< 3% @90% AM (line output)			
Cross-modulation	> 95dB @ 1MHz frequency offset			
Blocking	> 100dB @1MHz offset, > 110 dB out of band signals			
Dynamic range	> 120dB			
Spurious response rejection	> 95dB			
Dimension Receiver unit	71mm (14TE)(W) * 230mm(D) * 128mm (H), Weight 1.7 kg			

Options: Inband signalling, climax offset, VoIP, extended frequency, event log and VDL

Standards

ICAO annex 10
EN300 676 (AM, AM-MSK),
EN301 841 (VDL2 – Physical layer)
ED-137

Environmental

Temperature range: -20°C to +55°C (operating)
-40°C to +70°C (storage)
Humidity: 90% @ +40°C (non condensing)
Shock: Transport: IEC-721-3-2, Class 2M3
Vibration: Transport: IEC-68-2-32, Class 2M3, IEC-68-2-6
EMC: EN 301 489 – part 22
SAFETY: IEC 60950-1, CSA-C22.2 No. 60950



Agent/Distributor:

Jotron AS reserves the right to change the design and/or specifications at any time without prior notice. Reservations are also taken towards any general errors that may occur.

v.B

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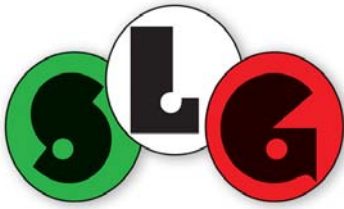
Nikon 7x50 Aculon A211 Binoculars (Black)



- Key Features
 - Aspheric Lens Design
 - Lead- and Arsenic-Free Eco-Glass
 - BAK4 Traditional Porro Prism Design
 - Anti-Reflection Multicoated Optics
 - Pairing a relatively low magnification with large objectives, Nikon's black 7x50 Aculon A211 Binoculars are outfitted with enhanced light-gathering capabilities, a large exit pupil, and long eye relief, which work together to produce an optic that is optimized for use in challenging light conditions.

Optical Performance

- Moderate 7x power magnifies views while helping to produce an exceptional exit pupil for enhanced viewing in low light
- Large 50mm objective lenses improve light-gathering ability for bright and clear images, even in challenging conditions such as at dawn and dusk
- Traditional Porro prism light path produces a rich depth of field, allowing the user to discern the relative distances between objects being viewed
- High refractive index BAK4 prisms deliver a round exit pupil and a crisp and clear image with limited edge distortion
- Aspherical eyepiece lenses correct spherical aberration to produce clear and crisp images, with reduced edge distortion and astigmatism
- Anti-reflection multicoated optics produce neutral and accurate color fidelity and improve contrast and image brightness
- 335-foot field of view at 1000 yards



Signal Light Gun

Robust, light weight hand held LED Signal Light Gun for Air Traffic & Ground Control

Instantly ready for use. Visibility greater than 4.1 miles/6.6km under clear daytime conditions. Three push button-selected colours: RED/WHITE/GREEN.

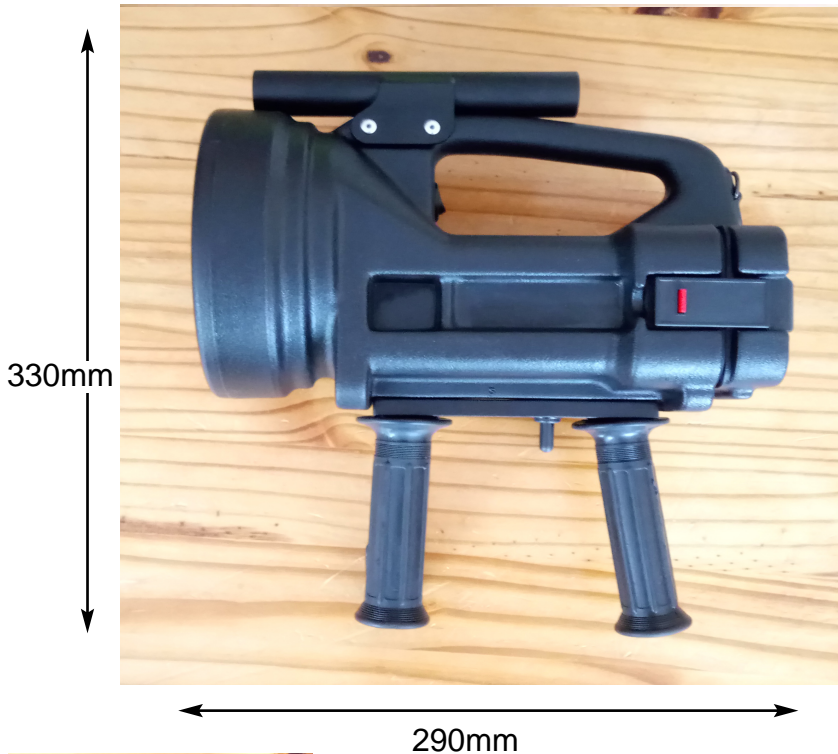
Light source all LED [light emitting diodes]. No need for spare lamps; LEDs have life of in excess of 50,000 hours before failure and because of low power consumption LEDs give the SLG continual usage time from fully charged of 8 hours. Coloured LEDs provide a more saturated colour than incandescent bulbs with filters, giving greater visibility in poor atmospheric weather conditions.

- Manufactured from a heavy duty ABS plastic moulding
- Comes complete with charger, carrying case and stand
- Visibility greater than 4.1 miles/6.6km in clear daylight conditions
- The light source is from RED WHITE GREEN light emitting diodes (LED) and is compliant with the advice given in UK CAP393, The Air Navigation Order and ICAO Annex 14 Vol 1.
- Simple to use colour coded push button activation with indicator lights
- 2 position switch for morse code or continuous use
- Light Weight 2.3kgs
- Sighting scope
- Lamp continual usage time from fully charged 8hrs
- Lithium battery with 100 - 240 VAC 50-60Hz 0.9A charger with diagnostic charging LED
- Charge time 3 hrs (can be used while recharging)



Dimensions:

Weight 2.3kg



Lithium battery
with 100 - 240
VAC 50-60Hz
0.9A charger
with diagnostic
charging LED

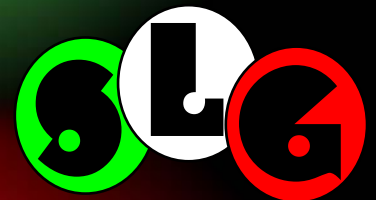


Width
Light dia. 160mm
Back 150mm

**Easy Access Cradle Stand:**

Heavy duty, non slip light gun cradle providing easy access to unit whilst being stored on desk top. Charger unit stores neatly underneath.

The SLG comes complete with a sturdy carrying case.



Signal Light Gun



PPS Technical Ltd
The Ridge, Winsford, Minehead
Somerset, TA24 7JQ,
United Kingdom

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Email: info@signallightgun.com
www.signallightgun.com

LX-993U

Time Code Remote Display



Features:

- Rugged Desktop Case
- Reads SMPTE/EBU, ASCII & ESE Time Code™
- Automatic Code Detection
- Six Yellow LED Displays (2.3" high Hours & Minutes, 1" high Seconds)
- Viewing Distance 70'
- Switchable Between 12 & 24 Hour Format Display
- Switchable to Date display
- Optional Time Zone Offset
- NTP Option Available
- UL & 220-240 VAC options available (110-120 VAC is standard)
- Various [Options](#) available

The LX-993U is a Time Code display featuring 2.3" high (Hours & Minutes) and 1" high (Seconds) yellow LED displays. The unit is housed in a rugged, black-textured aluminum desktop enclosure (3.5" H x 12" W x 6" D). The unit accepts, via the rear-mounted BNC connector, either ESE Time Code™ (TC76™, TC89™, or TC90™) or SMPTE/EBU Time Code (Time of Day only). RS-232C ASCII Time Code (format "0", "1" or "A" at 9600 baud) may be input via the rear-mounted 9-pin connector. The LX-993U will automatically determine which code is being received. An internal DIP switch is used to configure the display for 12 or 24 Hour format, or to display the Date instead of time-of-day (if incoming time code contains Date information, such as ESE TC90, date-encoded SMPTE/EBU or ASCII formats "1" or "A"). If the Time Zone option is ordered, an internal DIP switch is installed for this function. If receiving ESE Time Code™ from a timer, the unit will display Minutes, Seconds and Tenths of Seconds (if the timer has the Tenths option).

HOME

[Operation Manual](#)



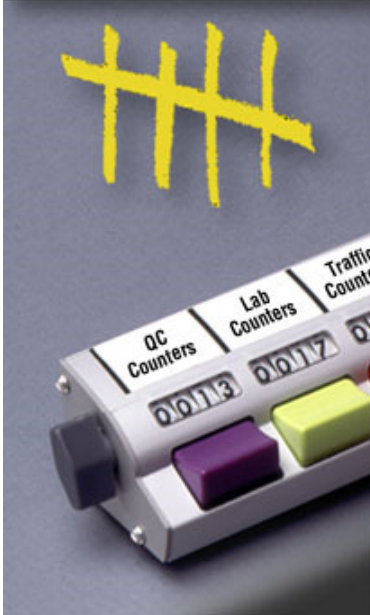
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YOU CAN COUNT ON US THE DENOMINATOR COMPANY, INC.



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Denominators are our only product, so we have concentrated our efforts to produce the most ergonomic and easy to use counter available.



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