INVITATION TO BID

Commodity
Acknowledgment Form

Page 1 of 21 Pages
BID WILL BE OPENED May 12, 2011 at 3:00 PM and may not be withdrawn within 45 days after such date and time.

UNIVERSITY MAILING DATE: 4/29/11 PURCHASING AGENT: KJO BID TITLE: WUFT-FM HD Power Increase

VENDOR NAME
VENDOR MAILING ADDRESS
REASON FOR NOT SUBMITTING BID

NOTE: Bid tabulations will be posted electronically at www.purchasing.ufl.edu. Bid prices quoted; however, vendors may offer a discount for prompt payment. Prompt payment discounts will not be considered in the bid award. However, every effort will be made to take the discount within the time offered.

SEALED BIDS: All bid sheets and this form must be executed and submitted in a sealed envelope. (DO NOT INCLUDE MORE THAN ONE BID PER ENVELOPE.) The face of the envelope shall contain, in addition to the above address, the date, and time of the bid opening and the bid number. Bids not submitted on the attached bid form shall be rejected. All bids are subject to the conditions specified herein. Those which do not comply with these conditions are subject to rejection.

1. EXECUTION OF BID: Must contain an original manual signature of authorized representative in the space provided above. Bid must be typed or printed in ink. Use of erasable ink is not permitted. All corrections to prices made by vendor must be initialed.

2. NO BID: If not submitting a bid, respond by returning only this vendor acknowledgment form, marking it "NO BID", and explain the reason in the space provided above. Failure to respond to a procurement solicitation without giving justifiable reason for such failure, nonconformance to contract conditions, or other pertinent factors deemed reasonable and valid shall be cause for removal of the supplier’s name from the bid mailing list. NOTE: To qualify as a respondent, vendor must submit a "NO BID", and it must be received no later than the stated bid opening date and hour.

3. BID OPENING: Shall be public, on the date, location and the time specified on the bid form. It is the vendor's responsibility to assure that the bid is delivered at the proper time and place of the bid opening. Bids which for any reason are not so delivered will not be considered. A bid may not be altered after opening of the bids. NOTE: Bid tabulations will be posted electronically at www.purchasing.ufl.edu. Bid tabulations will not be provided by telephone.

4. PRICES, TERMS AND PAYMENT: Firm prices shall be bid and will include all packing, handling, shipping charges, and delivery to the destination shown herein.

(a) TAXES: The University does not pay Federal Excise and Sales taxes on direct purchases of tangible personal property or services. The Florida Tax Exempt Number is 11-06-024056-57C. This exemption does not apply to purchases of tangible personal property or services made by vendors who use the tangible personal property or services in the performance of contracts for the improvement of University-owned real property as defined in Chapter 192, F.S.

(b) DISCOUNTS: Vendors are encouraged to reflect trade discounts in the unit prices quoted; however, vendors may offer a discount for prompt payment. Prompt payment discounts will not be considered in the bid award. However, every effort will be made to take the discount within the time offered.

(c) MISTAKES: Vendors are expected to examine the specifications, delivery schedule, bid prices, extensions, and all instructions pertaining to supplies and services. Failure to do so will be at vendor's risk. In case of a mistake in extensions the unit price will govern.

(d) INVOICING AND PAYMENT: Payment will be made by the University of Florida after the items awarded to a vendor have been received, inspected, and found to comply with award specifications, free of damage or defect and properly invoiced. All invoices shall bear the purchase order number. Payment for partial shipments shall not be made unless specified. An original invoice shall be submitted. Failure to follow these instructions may result in delay in processing invoices for payment. Payment shall be made in accordance with Section 215.422 (1) (2) F.S. VENDOR OMBUDSMAN: The University’s vendor ombudsman, whose duties include acting as an advocate for vendors may be experiencing problems in obtaining payment from the University, may be contacted at 352-392-1241.

(e) ANNUAL APPROPRIATIONS: The University’s performance and obligation to pay under any contract awarded is contingent upon an annual appropriation by the Legislature.

(f) CONDITION AND PACKAGING: It is understood and agreed that any item offered or shipped as a result of this bid shall be a new, current standard production model available at the time of this bid. All containers shall be suitable for storage or shipment, and all prices shall include standard commercial packaging.

(g) SAFETY STANDARDS: Unless otherwise stipulated in the bid, all manufactured items and fabricated assemblies shall comply with applicable requirements of Occupational Safety and Health Act and any standards hereunder.

5. CONFLICT OF INTEREST: The award hereunder is subject to the provisions of Chapter 112, F.S. All vendors must disclose with their bid the name of any officer, director, or agent who is also an employee of the University of Florida. Further, all vendors must disclose the name of any University employee who owns, directly or indirectly, an interest of five percent (5%) or more in the vendor's firm or any of its branches.

6. AWARDS: As the best interest of the University may require, the right is reserved to make award(s) by individual item, group of items, all or none or a combination thereof; to reject any and all bids or waive any minor irregularity or technicality in bids received. When it is determined there is no competition to the lowest responsible vendor, evaluation of other bids are not required. Vendors are cautioned to make no assumptions unless their bid has been evaluated as being responsive.
7. INTERPRETATIONS/DISPUTES: Any questions concerning conditions or specifications shall be directed in writing to the Purchasing Department. Inquiries must reference the date of bid opening and bid number. No interpretations shall be considered binding unless and until written in writing by the University in response to requests in full compliance with this provision.

8. NOTICE OF BID PROTEST BONDING REQUIREMENT: Any person or entity who files an action protesting a decision or an intended decision pertaining to a competitive solicitation shall at the time of filing the formal protest, post with the University a bond payable to the University in the amount of 10% of the protestor's bid or proposal; 10% of the estimated expenditure during the contract term; $10,000.00; or whichever is less. The bond shall be conditioned upon the payment of all costs which may be incurred by the person or entity filing the protest action. In lieu of a bond, the University may accept a cashier’s check, bank official check or money order in the amount of the bond. FAILURE OF THE PROTESTING PERSON OR ENTITY TO FILE THE REQUIRED BOND, CASHIER’S CHECK, BANK OFFICIAL CHECK OR MONEY ORDER AT THE TIME OF THE FILING THE FORMAL PROTEST SHALL RESULT IN DENIAL OF THE PROTEST.

9. GOVERNMENTAL RESTRICTIONS: In the event any governmental restrictions may be imposed which would necessitate alteration of the material, quality, workmanship or performance of the items offered in this bid prior to their delivery, it shall be the responsibility of the successful vendor to notify the purchaser at once, indicating in the space available whether such alteration requires any additional costs and expenses, and reserves the right to accept any such alteration, including any price adjustments occasioned thereby, or to cancel the contract at no expense to the University.

10. LEGAL REQUIREMENTS: Applicable provision of all Federal, State, county and local laws, and of all ordinances, rules and regulations shall govern development, submittal and evaluation of all bids received in response to the request for proposal and all claims and disputes which may arise between persons submitting a bid response hereeto and the University, by and through its officers, employees and subsidiaries (including agents and/or representatives, or any other person, natural or otherwise; and lack of knowledge by any vendor shall not constitute a cognizable defense against the legal effect thereof.

11. LOBBYING: Vendor is prohibited from using funds provided under any contract or purchase order for the purpose of lobbying the Legislature or any official, officer, employee, or other entity of the University of Florida, including loss of use thereof, or bodily injury (including death) which may be hereafter sustained by the vendor, its employees, its subcontractors, or the University of Florida, whether directly or indirectly, and lack of knowledge by any vendor shall not constitute a cognizable defense against the legal effect thereof.

12. ADVERTISING: In submitting a bid, the vendor agrees not to use the results therefrom as a part of any commercial advertising. Vendor may not use the names, logos, or trademarks of the University, its employees, or affiliates without the prior written consent of the University.

13. ASSIGNMENT: Any contract or purchase order issued pursuant to this Invitation to Bid and the monies which may become due hereunder are not assignable except with the prior written consent of the University.

14. LIABILITY: The vendor agrees to indemnify and save the University of Florida, the State of Florida and the Florida Board of Governors, their officers, agents, and employees harmless from and against all claims, losses, damages, and costs and expenses, including attorney’s fees, and also all claims on account of damages to property, including loss of use thereof, or bodily injury (including death) which may be hereafter sustained by the vendor, its employees, its subcontractors, or the University of Florida, the State of Florida and the Florida Board of Governors, their officers, agents, or employees, or third persons, arising out of or in connection with any contract awarded and which are the result of the default of the vendor, its officers, agents, or employees. This clause does not apply to contracts between government agencies.

15. FACILITIES: The University reserves the right to inspect the vendor’s facilities at any time with prior notice.

16. ADDITIONAL QUANTITIES: For a period not exceeding ninety (90) days from the date of acceptance of any offer by the University of Florida, the right is reserved to acquire additional quantities up to but not exceeding those shown on the bid or the bid level at the prices bid in this invitation. If additional quantities are not acceptable, the bid sheets must be noted “BID IS FOR SPECIFIED QUANTITY ONLY”.

17. SERVICE AND WARRANTY: Unless otherwise specified, the vendor shall define any warranty service and replacements that will be provided during and subsequent to this contract. Vendors must explain on an attached sheet to what extent warranty and service facilities are provided.

18. SAMPLES: Samples of items, when called for, must be furnished free of expense, on or before bid opening time and date, and if not destroyed, may upon request, be returned at the vendor’s expense. Each individual sample must be labeled with vendor’s name, manufacturer’s brand name and number, bid number and item reference. Request for return of samples shall be accompanied by instructions which include shipping authorization and name of carrier and must be returned with the bid. If instructions are not received within this time, the commodities shall be disposed of by the University.

19. INSPECTION, ACCEPTANCE AND TITLE: Inspection and acceptance will be at destination unless otherwise provided. Title and risk of loss or damage of all items shall be the responsibility of the contract supplier until accepted by the University, unless loss or damage results from negligence by the University. The contract supplier shall remain responsible for all items until delivered to the University’s door. However, to assist him in the expedient handling of damage claims, the University will:

(a) Record any evidence of visible damage on all copies of the delivering carrier’s Bill of Lading.
(b) Report damage (Visible or Concealed) to the carrier and contract supplier confirming within thirty days of delivery, requesting that the carrier inspect the damaged merchandise.
(c) Retain the item and its shipping container, including inner packing material until inspection is performed by the carrier, and disposition given by the contract supplier.
(d) Provide the contract supplier with a copy of the carrier’s Bill of Lading and damage inspection report.

20. PATENTS, COPYRIGHTS, TRADEMARKS, ROYALTIES AND OTHER Intellectual Property Rights: In general, without exception, shall indemnify and save harmless the University of Florida and its employees from liability of any nature or kind, including cost and expenses for or on account of any copyrighted, patented, or unpatented invention, process, or article manufactured or used in performance of this contract, including its use by the University of Florida. If the vendor uses any design, device, or materials covered by letters, patent or copyright, it is mutually agreed and understood without exception that the blast price in each bid is calculated from the use of such design, device, or materials in any way involved in the work.

21. CONFLICT BETWEEN DOCUMENTS: If any terms and conditions contained within the documents that are a part of this ITB or resulting contract are in conflict with any other terms and conditions contained therein, then the various documents comprising this ITB or resulting contract, as applicable, shall govern in the following order of precedence: change order, purchase order, addenda, special conditions, general conditions, specifications, departmental description of work, and bid.

22. MANUFACTURERS’ NAMES AND APPROVED EQUIVALENCES: Any manufacturer’s names, trade names, brand names, information and/or catalog numbers listed in a specification are for information and not intended to limit or prevent substitution or usage. If bids are based on equivalent products, indicate on the bid the manufacturer, trade name, name of the item, description and/or specifications. The University reserves the right to determine acceptance of item(s) as an approved equivalent. Bids which do not conform or fail to meet the specifications are subject to rejection. Bids lacking any written indication of intent to quote an alternate brand will be received and considered in complete compliance with the specifications as listed on the bid form.

23. NONCONFORMANCE TO CONTRACT CONDITIONS: Items may be tested and/or inspected for compliance with specifications by any appropriate testing agencies. Should any of the items supplied fail to comply with these requirements, the University reserves the right to reject the returning vendor and retain all costs which may be adjudged against the person or entity filing the protest action. In the event any tender is rejected, the solicitation shall at the time of filing the formal protest, post with the University a bond or blank for the sum of $10,000.00; or whichever is less. The bond shall be conditioned upon the payment of all costs which may be incurred by the person or entity filing the protest action. In lieu of a bond, the University may accept a cashier’s check, bank official check or money order in the amount of the bond. FAILURE OF THE PROTESTING PERSON OR ENTITY TO FILE THE REQUIRED BOND, CASHIER’S CHECK, BANK OFFICIAL CHECK OR MONEY ORDER AT THE TIME OF THE FILING THE FORMAL PROTEST SHALL RESULT IN DENIAL OF THE PROTEST.

24. PUBLIC RECORDS: Any material submitted in response to this Invitation to Bid will become a public document pursuant to Section 119.07 F.S. This includes material which the responding vendor might consider to be confidential or a trade secret. Any claim of confidentiality is waived upon submission, effective after opening pursuant to Section 119.07 F.S.

25. DELIVERY: Unless actual date of delivery is specified (or if specified delivery cannot be met), show number of days required to make delivery after receipt of purchase order in space provided. Delivery time may become a basis for making an award (see Special Conditions). Delivery shall be within the normal working hours of the University of Florida, Monday through Friday, unless otherwise specified.

26. PUBLIC PRINTING - PREFERENCE GIVEN PRINTING WITHIN THE STATE: The University of Florida shall give preference to vendors located within the state when awarding contracts to have materials printed, whenever such printing can be done at no greater expense than, and at a level of quality comparable to, that obtainable from a vendor located outside of the state.

(a) CONTRACTS NOT TO BE SUBLETED: In accordance with Class B Printing Laws and Regulations “Printing shall be awarded only to printing firms. No contract shall be awarded to any broker, agent, or independent contractor offering printing manufactured by other firms or persons.”

(b) DISQUALIFICATION OF VENDOR: Reasonable grounds for believing that a vendor is involved in more than one bid for the same work will be cause for rejection of all bids in which such vendors are believed to be involved. Any or all bids will be rejected if there is reason to believe that collusion exists between vendors. Bids in which the prices obviously are unbalanced will be subject to rejection.

(c) TRADE CUSTOMS: The University reserves the right to reject any bids submitted by the printing industry are recognized unless accepted by Special Conditions or Specifications herein.

(d) COMMUNICATIONS: It is expected that all materials and proofs will be picked up and delivered by the printer or his representative, unless otherwise specified. Upon request, materials will be forwarded by registered mail.

(e) RETURN OF MATERIAL: All copy, photos, artwork, and other materials supplied by the University of Florida must be handled carefully and returned in good condition upon completion of the job. Such return is a condition of the contract and payment will not be made until return is affected.

END OF SECTION

NOTE: ANY AND ALL SPECIAL CONDITIONS AND SPECIFICATIONS ATTACHED HERETO WHICH VARY FROM THE GENERAL CONDITIONS SHALL HAVE PRECEDENCE.

Rev.2/09
NON-TECHNICAL SPECIFICATIONS

1. **USE OF TERMS:** The terms University of Florida, University, WUFT-FM and WUFT are used synonymously in this Invitation to Bid unless otherwise indicated. The terms vendor, proposer and contractor are used synonymously in this ITB unless otherwise indicated.

2. **INVITATION TO BID FORM** - All bids should be submitted on the University of Florida Invitation to Bid/Bidders Acknowledgment form with one (1) complete original bid and one (1) complete photocopy in a sealed envelope, with the following information on the outside of the envelope: bid number, date and time of bid opening, and Company name in order to be considered in the award.

3. **FAXED BIDS** - Faxed bids are not encouraged. However, faxed bids are authorized in response to this Invitation to Bid. It is the responsibility of the vendor to insure that the fax is received in the Purchasing and Disbursement Services office one (1) hour prior to bid opening. Notify Cheri Spitzer at cspitzer@ufl.edu or 352-392-1331 ext. 219, prior to faxing the bid. Faxes should be sent to (352) 392-8837.

4. **BID DELIVERY** - If this bid will be mailed through the U. S. Postal Service as regular mail, address the bid to the PO Box as shown on the Invitation to Bid Acknowledgment Form. The outer most envelope must be clearly marked with the ITB number, title of bid and bid opening date and time.

   If a company representative plans to attend the bid opening; if the bid will be hand delivered; or if the bid will be delivered by a service other than the U. S. Postal Service regular mail, i.e., Federal Express, Airborne, United Parcel Service, Courier, U. S. Postal Express Mail, etc., address the bid to the Building and room number as shown on the Invitation to Bid Acknowledgment form. The outer most envelope must be clearly marked with the ITB number, title of bid and bid opening date and time.

5. **INQUIRIES** - The University will not give verbal answers to inquiries regarding the specifications, or verbal instructions prior to or after the award of the bid. A verbal statement regarding same by any person shall be non-binding. The University is not liable for any increased costs resulting from the Bidder accepting verbal direction. All changes, if necessary, shall be made by written addendum to the bid.

   Any explanation desired by Vendors must be requested of the University of Florida Purchasing and Disbursement Services in writing, and if an explanation is necessary, a reply shall be made in the form of an addendum, a copy of which will be forwarded to each Vendor who has received a set of the bid documents from the University. Vendors obtaining bid documents from any other source must notify the University of their name, address, telephone, and facsimile numbers in order to receive any addenda. Direct all inquiries to Karen Olitsky at kolitsk@ufl.edu.

   Questions and requests for clarification will be entertained through 5:00PM EST, May 5, 2011. Responses to inquiries will be issued in the form of an addendum to all vendors. Questions and requests for clarification received after the deadline may not be answered.

6. **AWARD** - Award will be made on an "All-or-None Offer Total Offer" basis. Any contract awarded pursuant to this Bid/RFP will be awarded to the single best bidder/proposer or to none at all.

7. **CANCELLATION** - Orders or contracts resulting from the bid award will be subject to immediate cancellation if either the product or the service does not comply with the bid specifications.

8. **RIGHT TO TERMINATE** - In the event that any of the provisions of a contract resulting from the bid award are violated by the successful bidder, the University may serve written notice upon such bidder of its intention to terminate the contract. Such notice is to state the reason(s) for such intention to terminate the contract, and unless within ten (10) days after serving such notice upon the bidder, such violation shall cease and satisfactory arrangements for correction are made, the contract shall, upon
expiration of said ten (10) days, cease and terminate, but the liability of such bidder and his surety for any and all such violations(s) shall not be affected by any such termination.

9. **AVAILABILITY OF FUNDS** - The State of Florida’s and the University’s performance and obligation to pay under this contract is contingent upon an annual appropriation by the Legislature of the State of Florida.

10. **EQUAL OPPORTUNITY STATEMENT** - The State Universities have established equal opportunity practices which conform to both the spirit and the letter of all laws against discrimination and prohibits discrimination based on race, creed, color, sex, age, national origin, marital status or religion. To be considered for inclusion as a supplier under this agreement, the proposer commits to the following:

   A. The provisions of Executive Order 11246, September 24, 1966, and the rules, regulations, and relevant orders of the Secretary of Labor are applicable to each order placed against this agreement regardless of value.

   B. If the proposer expects to receive $10,000 in orders during the first 12 months of this agreement, a complete certificate of non-segregated facilities shall be attached to the proposal response.

   C. If the proposer expects to receive $50,000 in orders during the first 12 months of this agreement and employs more than 50 people, standard form 100 (EEOO-1) must be filed prior to March 1 of each year.

   D. If the proposer expects to receive $50,000 in orders during the first 12 months and employs more than 50 people, a written program for affirmative action compliance must be maintained by the proposer, subject to review upon request by the user agencies of this agreement.

   If you have already complied with the above, please indicate ____

11. **PRISON REHABILITATIVE INDUSTRIES** - It is expressly understood and agreed that any articles which are the subject of, or required to carry out this contract shall be purchased from Pride of Florida in the same manner and under the procedures set forth in Section 946.515 (2), (4), Florida Statutes; and for purposes of this contract the person, firm or other business entity carrying out the provisions of this contract shall be deemed to be substituted for this agency insofar as dealings with such corporation. Contact, Terrie Brooks, Bid Administrator, PRIDE of Florida, 2720 Blair Stone RD, Suite G, Tallahassee, FL 32301

12. **PUBLIC ENTITY CRIME** - A person or affiliate who has been placed on the convicted vendor list by the Department of Management Services, State of Florida, may not submit a proposal on a contract to provide any goods or services, including construction, repairs, or leases and may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant for the University of Florida for a period of 36 months from the date of being placed on the convicted vendor list, a "person" or "affiliate" includes any natural person or any entity, including predecessor or successor entities or any entity under the control of any natural person who is active in its management and who has been convicted of a public entity crime (Rule 6C1-3.020 FAC).

   FEDERAL DEBARRMENT - By signing this bid/proposal, the offeror certifies, to the best of its knowledge or belief, that the offeror and its principals are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency; or have not within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them in connection with a public contract or subcontract; or are not criminally or civilly charged by a governmental entity with commission of offenses; or has not within a three year period preceding this offer had a contract terminated for default by any Federal agency. (Federal Acquisition Regulation 52.209-5)
DISCRIMINATION – An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid on a contract to provide goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not award or perform work as a contractor, supplier, subcontractor or consultant under contract with any public entity, and may not transact business with any public entity.

13. **SMALL BUSINESS PROGRAM** - University is an equal opportunity institution and, as such, encourages the use of small businesses, including women and minority-owned small businesses in the provision of goods and services. Small businesses should have a fair and equal opportunity to compete for dollars spent by the University. Competition ensures that prices are competitive and a broad vendor base is available. Vendor shall use good faith efforts to ensure opportunities are available to small businesses, including women and minority-owned businesses. For questions about the University’s Small Business Program contact Faylene Welcome, Director of Small Business and Vendor Diversity, 352-392-1331.

14. **AMERICANS WITH DISABILITY ACT** - If special accommodations are needed in order to attend a pre-proposal meeting or a proposal opening, contact Cheri Spitzer at cspitzer@ufl.edu or 352-392-1331 ext. 219, three business days prior to the meeting.

15. **NOTICE TO CONTRACTOR:** - The University shall consider the employment by any contractor of unauthorized aliens a violation of section 274A(e) of the Immigration and Nationality Act. Such violation shall be cause for unilateral cancellation of this contract.

16. **PACKAGING** - Shipping labels shall be attached to each carton and shall contain the following information: purchase order number, quantity contained in each package, and total number of items being delivered.

17. **F.O.B. POINT** – The F.O.B. Point shall be destination. Exact delivery point will be indicated on the Purchase Order.


19. **DELIVERY COSTS** - All costs for delivery, storage, freight, and packing are to be prepaid by the contractor, FOB, University of Florida or address as listed in the Invitation to Bid.

20. **EQUIVALENTS** - All items substituted in the Invitation to Bid must meet or exceed the published specifications of the specified item(s) listed below. All such substitute item(s) must be accompanied with full detailed literature as called for in General Condition #22.

21. **MAINTENANCE AND INSTRUCTION MANUALS** - The successful bidder shall include at least one copy of an instruction manual with each unit supplied. This manual shall include at least a minimum of operating instructions, maintenance and repair information, including schematic diagrams and a list of available replacement parts.

22. **SOFTWARE** - Bidder shall grant to the customer a non-exclusive/non-transferable license to use all software procured from the contract resulting from this Invitation to Bid. Use of this software is subject to the following provisions:

   A. Copyrighted software provisions are contained in the Special Condition entitled "Patents and Royalties".

   B. Title to the software shall remain with the title holder.
C. Customer may reproduce one (1) copy of each diskette based software package procured that is not copy protected, for archival and backup purposes only. Copyright and any proprietary notices shall be included on the backup copies.

D. Software that is provided on diskette for user work stations shall be supplied as one (1) copy per work station ordered, unless site licenses or volume discounts have been offered by the bidder and so ordered by the customer.

E. Software updates or enhancements shall be made available to the customer in accordance with the Special Condition entitled "Addition/Deletion/Change", or the bidder published procedure for newer software versions.

F. Bidder shall provide for exchange of software provided on copy protected diskettes in the event the distribution diskette is rendered unusable through either operator error or system malfunction.

G. Bidder shall indicate on the software pricing sheet if there is any cost associated with items D through F above.

H. The customer shall be responsible for: a) software selection to achieve the customers intended results: b) use thereof: and c) all results obtained there from.

I. Software may be used on only the single central processing unit (CPU) or system configuration for which the software was acquired. The software may be used on another single CPU or on a temporary basis when the primary CPU or system is inoperable due to hardware failure.

J. Customer shall not make the software available in any form to third parties. Only the customer's employees directly concerned with the licensed use of the software, shall have access to the software.

K. Contractor shall retain the option to terminate software licenses granted in accordance with this section, and require return of the software if the customer fails to comply with the license provisions.

23. **WARRANTY** - The successful bidder shall furnish factory warranty on all equipment furnished against defect in material and/or workmanship. The factory warranty shall become effective on the date of delivery and acceptance by the University. Should any defect in material or workmanship, excepting ordinary wear and tear, appear during the above stated warranty period, the successful bidder shall repair or replace same at no cost to the University immediately upon written notice from University Purchasing. The successful bidder will not be liable under the above warranty for any defects or damages resulting from unforeseeable causes beyond the control and without the fault or neglect by the University, acts of God, fires, floods, and hurricanes.

24. **OTHER PURCHASERS** – With the consent and agreement of the successful bidder(s) purchases may be made under this ITB/RFP by other state universities, community colleges, district school boards, other educational institutions, and other governmental agencies within the state of Florida. Such purchases shall be governed by the same terms and conditions stated in the proposal solicitation as provided in Rule 6C1-3.020 (5)(f) 3 Fla. Admin. Code.

25. **INSURANCE – NON-CONSTRUCTION** – The Contractor shall purchase from and maintain with a company or companies, lawfully authorized to do business in Florida and acceptable to the University, such insurance as will protect the Contractor from claims arising out of or resulting from the Contractor’s operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. All insurance policies shall be issued and countersigned by representatives of such companies duly authorized for the State of Florida and shall be written on ISO standard forms or their equivalents. The Contractor
shall file with the University Certificates of Insurance prior to the commencement of the work and shall file certificates of insurance evidencing the renewal of such policies at least thirty (30) days prior to the date the each applicable insurance policy is scheduled to expire.

Contractors Liability Insurance - The Contractor shall provide the ISO Commercial General Liability policy for general liability coverage's for limits of not less than of $500,000 per occurrence. Coverage’s shall be maintained without interruption from date of commencement of work until date of final payment.

Worker's Compensation - The Contractor shall secure and maintain for the life of this Agreement, valid Worker's Compensation Insurance as required by Chapter 440, Florida Statues.

Automobile Liability - The Contractor shall secure and maintain during the life of this Agreement, Automobile Liability insurance on all vehicles against bodily injury and property damage in the amount of at least, $500,000 per occurrence.

26. PROTECTION OF PROPERTY - The successful bidder shall at all times guard against damage or loss to the property of the University or of other vendors or contractors and shall be held responsible for replacing or repairing any such loss or damage. The University may withhold payment or make such deductions as deemed necessary to insure reimbursement or replacement for loss or damage to property through negligence of the successful bidder or his agents. The contractor shall provide all barricades and take all necessary precautions to protect buildings and personnel.
SCOPE OF WORK

WUFT is requesting a bid on the following items. Please bid items individually. WUFT will choose based on budgetary restraints from this list.

1. HPX FM/HD TRANSMITTER WITH FLEXSTAR EXCITER – (based on HARRIS Part No. HARHPX40HDPL21 or substantial equivalent)

2. SCREEN / BIAS SUPPLY ASSEMBLY- (based on HARRIS Part No. HARHPXSCRNBIASOPT or substantial equivalent)

3. ENHANCED TRANSMITTER CONTROL UNIT (ASM, TCU, PPC, HPX-ENHANCED SY) (based on HARRIS Part No. HARHPXENHTCU or substantial equivalent)

4. KIT, SEMICONDUCTOR & FUSE, HPX (based on HARRIS Part No. HARHPXSFK or substantial equivalent)

5. Kit, High Output cooling, 380V High cooling kit for use when operating with elevated HD Side Bands levels (based on Harris Part No. HARHPXHIGHCOOLKIT)

6. HPX INSTALL AND COMMISSIONING - based on HARRIS PART NO. HARHPXINSERV or substantial equivalent. This includes all test equipment, travel, meals, and lodging.

7. IMPORTER, FORMAT HDI-100-EMB (based on HARRIS Part No. HARHDI-100-EMB or substantial equivalent)

8. FLEXSTAR HDE-200 EXPORTER (based on HARRIS Part No. HARHDE200 or substantial equivalent)

9. Spare Parts kit “Most extensive available”

10. Training for 4 Engineers at factory

11. Bird Power Meter BPME Part# 3129

12. Warranty: Standard Manufacture warranty plus 3 year parts only

All bids must meet or exceed the following specifications. If the manufacturer is unable to meet any specifications, it should be so noted on the reply as well as a reason why that specification is not met.

Delivery shall be F.O.B. (Destination) to: WUFT-FM, 4732 N.W. 53rd Ave, Gainesville, Fl. 32605
TECHNICAL SPECIFICATIONS

FM+HD BROADCAST TRANSMITTER

1. These specifications describe a FM / HD Radio™ broadcast transmitter that shall be capable of operation in FM, FM+HD (at -20 dB ratio), FM+HD (at -14 dB ratio), or FM+HD (at -10 dB ratio) mode in the output power range indicated:

<table>
<thead>
<tr>
<th>Transmitter Model</th>
<th>FM</th>
<th>FM+HD (-20dBc)</th>
<th>FM+HD (-14dBc)</th>
<th>FM+HD (-10dBc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPX40</td>
<td>10.5 – 42kW</td>
<td>8.0 – 32.1kW</td>
<td>6.0 – 24.1kW</td>
<td>4.2 – 16.9kW</td>
</tr>
</tbody>
</table>

2. The transmitter manufacturer shall state the minimum overall, AC to RF, efficiency specifications in FM mode with the transmitter operating at full power:

| HPX40 | 70% |

3. The transmitter manufacturer shall provide data to support the following typical (average) overall, AC to RF, efficiency specifications:

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<tbody>
<tr>
<td>HPX40</td>
<td>72%</td>
<td>62%</td>
<td>52%</td>
<td>43%</td>
</tr>
</tbody>
</table>

4. The transmitter shall be U.S. F.C.C. type verified, Industry Canadian (IC) type approved, CE certified, RoHS certified, and IEC 60215 compliant to meet accepted industry standards for safety.

5. The transmitter power supply cabinet shall be able to be installed a maximum distance of 40ft from the PA cabinet with a wiring kit which is available optionally.

6. The transmitter shall be capable of continuous duty operation at one power level and one carrier frequency in the range of 87.5 to 108MHz. The transmitter shall be factory tested first at 5% above the rated power of the transmitter, then at the customer's specified output power to meet specifications prior to shipment.

7. Transmitter output impedance shall be 50 ohms and shall terminate in a 3-1/8 inch EIA male flange. The transmitter shall match into a maximum load VSWR of 1.5:1.

8. When the transmitter is operating in the automatic power control mode, RF output power shall automatically reduce as a function of increasing load VSWR for protection of the transmitter and output load (proportional VSWR fold back).

9. The FM exciter shall generate the complete, FM modulated waveform digitally with an embedded DSP FM+HD exciter utilizing direct to channel FM modulation. Selection of a lower cost analog, voltage controlled oscillator (VCO) exciter version shall be possible. The FM exciter shall be manufactured by the same manufacturer as the transmitter.

10. The transmitter shall offer 8 RU EIA spacing and main/alternate exciter switching standard.

11. The transmitter shall be completely solid-state except for a single 4CX20000C tetrode power amplifier tube operating in a quarter-wave cavity. PA cavity plate tuning shall not require the use of sliding, high current RF contacts. The PA cavity shall be manufactured by the transmitter supplier and at rated power shall exhibit a minimum PA plate efficiency of 80% as measured during factory tests.

12. The transmitter shall not use any frequency determined components in the PA cavity. Also the transmitter shall not use any vacuum variable type capacitors in any of the PA cavity tuning circuits.
13. The transmitter shall use completely solid-state Screen and Bias power supplies. Provisions shall be made for automatic and manual switching between main and optional back-up Screen and Bias supplies.

14. The transmitter shall incorporate a modular, single 500 watt or dual 1000 watt, solid state, “hot-pluggable” broadband, linear or class C “on-the-fly” switching, intermediate power amplifier (IPA) with single or dual, redundant, “hot-pluggable” switch mode power supplies. These IPA modules shall not require tuning for operation at any frequency in the band 87.5 to 108MHz. In the dual version, module and power supply replacement shall not require the transmitter to be off air. For increased cooling efficiency, the heat sinks of and power supplies for these modules shall be integrated within the transmitter for a single filtered cooling input, sharing the input of the PA tube cavity.

15. IPA output power shall be continuously adjustable by front panel control. The IPA shall incorporate a directional coupler to measure forward and reflected power on one front panel display. The IPA shall incorporate automatic VSWR protection.

16. In FM analog only mode, the transmitter shall re-bias the IPA modules to class C amplification for improved efficiency and higher power output. In HD modes, the IPA modules shall be biased for class AB for improved linearity resulting in lower intermodulation products (in band noise) and NRSC-5B mask compliance.

17. The FM exciter and IPA module shall employ 50 ohm interfaces which shall allow reconfiguration of the low power RF stages to directly drive the PA. In addition, the PA shall be capable of bypass so that any low power stage can be connected directly to the transmitter output connector. The transmitter shall be capable of resuming on-air operations at reduced power after IPA and/or PA bypassing. PA bypassing shall have no user safety issues while servicing the PA cavity.

18. The transmitter shall employ an integrated harmonic filter which shall be manufactured by the transmitter supplier and shall effectively attenuate harmonic and spurious signals. The transmitter operating into a test load shall meet or exceed all U.S. F.C.C., Canadian and CCIR requirements with regard to internally generated harmonic and spurious signals.

19. The transmitter shall incorporate an automatic power control (APC) circuit which shall automatically maintain RF output power level within +3/-5% of a preset value.

20. Automatic filament voltage regulation shall be included standard. A filament running hours meter shall be provided behind an easy open front panel. True RMS filament voltage shall be monitored and displayed on the transmitter front panel.

21. Transmitter control shall be provided by a low logic level, solid state controller providing extensive monitoring and diagnostic functions. Controller input and output signals shall pass thru an RFI network. The main solid state control logic shall include an overload counter which shall accept three overloads per 30 second period before removing high voltage. The Transmitter shall have an enhanced controller. The Enhanced controller shall include a Processor Control Module (PCM) utilizing a Coldfire Microprocessor running Linux. The transmitter Enhanced controller shall provide controls on a ¼ VHA color touch-screen display and offer Ethernet, SNMP, RS232, and CAN connectivity.

22. The transmitter controller shall incorporate a front panel signal flow block diagram showing the operational status of major active stages in the transmitter. Each identified stage shall provide an LED operational status indication according to the following color key: GREEN, operational; AMBER, marginal; RED, inoperative.

a. Stage status indications incorporated on the front status panel shall include:

i. Exciter
ii. IPA
iii. PA (including Plate, Filament, Bias and Screen Supply status)
iv. Output

23. The transmitter controller shall incorporate a front panel LED status indication of protection circuit status, mode of operation, and active faults to include:

   a. Cooling
   b. Control
   c. FM, FM+HD, or HD operating mode
   d. Primary Faults to include:

      i. external interlock
      ii. door interlock
      iii. AC Mains
      iv. foldback
      v. VSWR
      vi. Plate Current Overload

24. The transmitter shall incorporate full analog metering of all operating parameters and functions. This multimeter shall display the name of the parameter being measured, its numeric value, and the applicable unit of measure (kV, watts, etc). If the controller terminates operation to protect the transmitter, the LED fault matrix shall display the cause of the shutdown as an aid to troubleshooting.

25. The transmitter shall be capable of a single button "ON" and "OFF" commands via front panel switches or by remote control.

26. The transmitter shall include all interfaces needed for the direct connection of standard remote control equipment. Remote control commands shall be momentary and require an external switch contact rating of one ampere or less.

27. The following remote control, monitoring, status and interlock interface connections shall be provided:

   a. ANALOG OUTPUTS (Full Scale Output Level = 5VDC at 2.5mA, or 1or 4VDC – user adjustable)

      i. Forward Power
      ii. Reflected Power
      iii. Plate Voltage
      iv. Plate Current
      v. Screen Current

   b. COMMANDS (50mA current sink capability to +10 V supply per command input):

      i. Filament On
      ii. Filament Off
      iii. Plate On
      iv. Plate Off
      v. Power Raise
      vi. Power Lower
      vii. Power Control Auto
      viii. Power Control Manual
      ix. Exciter A Select
      x. Exciter B Select
      xi. Exciter Auto Mode
      xii. Exciter Manual Mode
      xiii. External Equipment Interlock
      xiv. Fault Recall
      xv. Low Power Mode
      xvi. External RF Mute
c. STATUS (50mA current source from +10 V supply per status channel):

i. Filament On
ii. Plate On
iii. Power Raise
iv. Power Lower
v. Remote Enabled
vi. Power Control Auto
vii. Summary Fault
viii. Exciter A Active
ix. Exciter B Active
x. Exciter Auto Mode
xi. Drive Chain
xii. Power Amp
xiii. Output
xiv. Power Supplies
xv. System
xvi. Spare
xvii. GND
xviii. Status Pull Up Supply
xix. +12Vdc
xx. GND

28. The transmitter shall be capable of operating at altitudes to 7,500 feet with an ambient temperature range of 0°C to +45°C at sea level (derated 2°C per 1000 feet of altitude).

29. The transmitter shall require only a single source of AC three-phase power to operate, within the range and types of 197 to 250VAC, 50/60Hz, 3-phase, 3-wire closed delta or WYE, or 360-415V, 50Hz, 3-phase, 4- wire WYE AC mains power. The AC power factor shall be 0.95 or greater. The transmitter shall be fully protected for loss or reversal of AC mains phase. The transmitter cabinet shall incorporate five, front panel door accessible, AC circuit breakers providing protection for internal circuits.

30. The transmitter shall provide a redundant low voltage power supply as standard equipment.

31. The transmitter shall employ a FM+HD exciter capable of operation at any RF output power from 1 to 22 watts. The following operating parameters and features shall be included in the FM+HD exciter:

32. The exciter shall be completely solid state and broadband, requiring no output tuning or adjustment over its specified output carrier frequency range.

33. The exciter shall accept as modulation input AES3 standard AES/EBU digitized stereo at data rates of 32 to 96 kbps, and shall be self clocking. When using the AES/EBU modulation input, the exciter shall include a digital signal processor (DSP) for digital generation of the encoded stereo composite waveform directly from incoming AES/EBU digital data, including up to three SCA/RBDS/RDS analog subcarriers. The DSP stereo generator shall provide a 19kHz reference signal at the rear panel of the exciter for use by external RBDS/RDS generators. The DSP stereo generator shall be capable of local or remote selection to either stereo or monaural mode.

34. The exciter shall be equipped with two SCA audio inputs on one XLR (5-pin) connector and mating male connector shall be supplied. Each SCA input shall be configured to two internal SCA generators with the ability to enable or disable, set the SCA frequency, modulation level, pre-emphasis and filter selections all from the front panel GUI.

35. Exciter shall have a built in static RBDS generator.

36. The exciter shall have an analog left and right audio input, mono, auxiliary AES input, composite main and aux input, and up to three SCA inputs. Analog inputs shall accept 20Hz-53kHz analog composite baseband, monaural audio, and up to three SCA subcarriers in the range 57-92kHz (23kHz-92kHz subcarriers during monaural operation).

37. All audio inputs shall be capable of automatic main and alternate operation with user selectable thresholds for level and time. 37) LED indicators shall be used on the exciter front panel to note the status of parameters under the following menu headings:
a. Audio  
b. Signal Processing  
c. RF System  
d. System Control  
e. Performance

38. Maximum modulation capability of the exciter at any modulating frequency from 5Hz to 100kHz shall be greater than 300kHz deviation.

39. The output carrier frequency shall be user-adjustable in 10 kHz steps from 87.5 MHz to 108 MHz. The exciter shall be capable of local and remote frequency selection using an external parallel input. Frequency change shall not require readjustment of exciter deviation sensitivity or program input level to maintain nominal 100% modulation level of the exciter after the frequency change.

40. The carrier frequency stability of the exciter when using its internal frequency synthesizer shall be +/- 150Hz, 0°C to 50°C.

41. Exciter shall have a 10 MHz and 1 PPS input for carrier and pilot synchronization to external (GPS) reference for use in analog FM synchronous booster applications. External reference selection shall have an AUTO function to allow automatic switching to internal (high accuracy TCXO) oscillator if external reference fails.

42. To avoid off-air interruptions due to sub-audible transients (STL squelch operation, etc), the exciter shall not lose frequency lock when modulated to at least 200% by waveforms in the range 1Hz to 20Hz.

43. The exciter shall be comprised of a single chassis containing all required power supplies, system modules, subassemblies, and interface components. For ease of maintenance, modules and subassemblies shall employ multi-pin connector and coaxial cable interfaces for all input and output connections. Direct wiring of module and subassembly interconnections shall not be employed.

44. The exciter shall provide consolidated metering of key operating parameters by means of a Home Page on the front panel GUI. Parameters to be displayed are:

   a. Forward power indication  
   b. Reflected power indication.  
   c. Frequency  
   d. Audio Input Source.  
   e. Main RF Output Type (FM, FM+HD)  
   f. Aux RF Output Type (FM, FM+HD)  
   g. RTAC (Real Time Adaptive Correction) Status  
   h. Spectral Display  
   i. Mute Status  
   j. Fault Status  
   k. Help Menu Button  
   l. Analog modulation bargraph

45. The exciter shall include a front panel bargraph display showing baseband modulation percentage from 0 to 140%. The display shall be digitally driven using the modulation data applied to the user defined exciter's input. Accuracy of the modulation display shall be within 0.25% at 100% modulation at any frequency, 2Hz to 100kHz. The modulation display sensitivity shall autorange to ten times sensitivity in the absence of modulation to allow accurate adjustment of pilot and subcarrier injection. The modulation bargraph shall employ a marker for indication of peak modulation.

46. The exciter shall provide means for smooth adjustment of output power from at least 1 to 22 watts using front panel controls.
47. The transmitter and exciter shall be supplied with complete documentation contained in one or more instruction books with detailed circuit and troubleshooting information and parts lists.

48. The equipment manufacturer shall maintain a service department that is manned 24 hours a day, 365 days a year. The service department shall be able to provide parts and/or technical assistance.

49. As a demonstration of the manufacturer's commitment to quality, the manufacturer shall have current ISO 9001:2000 registration, which shall be in good standing at the time of this bid.

50. The transmitter shall exhibit the following minimum performance specifications at full output power when operating into an isolated, non-reactive, fifty ohm load:

Specifications are subject to change without notice.

Frequency Range: 87.5 to 107.9 MHz
Maximum Power Output: HPX40
  FM Mode: 42 kW
  FM+HD -20 dBC: 31.5 kW
  FM+HD -10 dBC: >17 kW
  HD Mode -20 dBC: 9.6 kW
  HD Mode -10 dBC: 7.0 kW

* Maximum power currently 17 kW at -10 dBC with existing Crest Factor Reduction techniques. Improvements in efficiency and PAPR control within the FlexStar exciter indicate that an increase of 1-1.5 dB (23 kW Max) available output power at -10 dBC is anticipated.

Minimum Overall
AC to RF Efficiency: HPX40
  FM Mode: 70%

Typical Overall
AC to RF Efficiency: HPX40
  FM Mode: 72%
  FM+HD -20 dBC: 62%
  FM+HD -10 dBC: 42%

Output Impedance: 50 ohms
Output Connector: 3-1/8 in. EIA or 4-1/16 in. male flange (Myat compatible)

Asynchronous AM S/N Ratio: 55dB minimum below equivalent 100% amplitude modulation by 400Hz using 75Ps de-emphasis (no FM modulation present).

Synchronous AM S/N Ratio: 50dB minimum below equivalent 100% amplitude modulation with 75Ps deemphasis and 400Hz highpass filter (FM deviation +75kHz by a 1kHz sine wave).

Input/Output Specifications
AES3 Audio Inputs: (2) auto-switching AES3 inputs, female XLR, 110 Ohms balanced; -2.8dBfs nominal; GUI adjustable level from 0 dBfs to -15 dBfs in 0.1 dB steps for +/− 75 kHz deviation; input sample rate 32 to 96 kHz.

Analog L/R Inputs: Female XLR, >10K Ohms, balanced, resistive; default level is +10dBu for +/− 75kHz deviation. Level GUI adjustable from -10dBV to +10dBV.

Analog Composite Input: (2) BNC inputs (1 balanced, 1 unbalanced); Balanced impedance is 10K Ohms or 50 Ohms (selectable); Unbalanced is 10K Ohms; Input level: 3.5V P-P for +/− 75 kHz deviation; Adjustable 2V P-P to 5 V P-P.

SCA Audio Inputs: (2) inputs combined on one 5-pin XLR female connector (mating male connector supplied); >10K Ohms balanced, resistive; +10dBV nominal for +/− 6kHz of FM sub-carrier.

External SCA inputs: (2) BNC female, unbalanced; >10K Ohm; 1.5V p-p nominal for +/− 7.5kHz (10%) deviation of main carrier; adjustable from 1V P-P to 4V P-P.

RBDS Data Input: Sub-D 9-pin female RS-232.
External 10MHz Clock Input: BNC female, unbalanced, 50 Ohm, -10dBm to +10dBm.
External 1 PPS Clock Input: BNC female, unbalanced, 50 Ohm, TTL level.
RF Output Size/Impedance: 50 ohms, 3 1/8" EIA

Stereo Generator Performance (AES3 or analog inputs)
Modes: Stereo, Mono L+R, Mono L, and Mono R; remote controllable.
Pre-emphasis: Selectable 0, 25, 50, or 75 microseconds.
Stereo Pilot Tone: 19 kHz ± 0.03 Hz; injection adjustable 0% to 12% in 0.05% steps; Nominal: 9%.
38kHz, 57kHz, 76 kHz, 95 kHz Suppression: 80 dB below +/-75 kHz deviation.
Stereo Separation: 60 dB, 10 Hz to 15 kHz.
Dynamic Stereo Separation: 55 dB, 10 Hz to 15 kHz.
Stereo Amplitude Response: ± 0.1 dB, 10 Hz to 15 kHz referenced to selected pre-emphasis curve.
Stereo Signal to Noise Ratio (L or R): 83dB below 100% modulation at 400Hz; measured in a 10Hz to 22kHz bandwidth with 75μs de-emphasis and DIN "A" weighting.
Stereo Total Harmonic Distortion: 0.02%, any modulating frequency 10 Hz to 15 kHz, in bandwidth 10 Hz to 22 kHz; with 75μs de-emphasis.
Stereo Intermodulation Distortion (L or R): CCIF: 0.025% Note 1; (14/15kHz 1:1), SMPTE: 0.025% (60 and 7000Hz 1:1).
Transient Intermodulation Distortion (DIM): 0.02%; (2.96kHz square wave/14kHz sinewave modulation).
Linear Crosstalk: 90dB below 100% modulation reference (AES3 Input); L+R to L-R or L-R to L+R due to amplitude and phase matching of L&R channels (10Hz-15kHz).
Non-Linear Crosstalk: 80dB below 100% modulation reference; L+R to L-R or L-R to L+R due to distortion products.
Audio Overshoot: Less than 0.16dB.

Mono Performance (AES3 or analog input)
Pre-emphasis: Selectable 0, 25, 50 or 75 microseconds.
FM Mono Signal-to-Noise Ratio: 94dB below 100% modulation at 400Hz; measured in a 10Hz to 22kHz bandwidth with 75μs de-emphasis and DIN "A" weighting.
Amplitude Response: ±0.05 dB, referenced to selected preemphasis curve (no low-pass filter).
Mono Total Harmonic Distortion: 0.01% THD, 10Hz to 22kHz bandwidth.
Mono Intermodulation Distortion: CCIF: 0.005% (14/15kHz 1:1); SMPTE: 0.005% (60/7000Hz 1:1).
Mono Transient Intermodulation Distortion (DIM): 0.005% (2.96kHz square wave/14kHz sine wave).

Wideband Analog (Composite) Input Performance
FM Signal-to-Noise Ratio: 94dB below ±75kHz deviation at 400Hz; measured in a 10Hz to 100kHz bandwidth with 75μs de-emphasis; DIN "A" weighting.
Amplitude Response: +/- 0.005 dB 20 Hz to 53 kHz; +/- 0.03 dB, 53 kHz to 100 kHz.
Total Harmonic Distortion: 0.01% THD over stereo sub band (10Hz to 53kHz) with 75 microsecond de-emphasis.
Intermodulation Distortion: CCIF: 0.005% (14/15kHz, ratio 1:1); SMPTE: 0.005% (60/7000Hz, Ratio 1:1).
Transient Intermodulation Distortion (DIM): 0.005% (2.96kHz square wave/14kHz sinewave modulation).
Slew Rate: 11.8V/us - symmetrical.
Phase Response Variation: ± 0.05° from linear phase, 10Hz to 100kHz.
Group Delay Variation: ± 5ns, 10Hz to 53kHz, ± 30ns, 53kHz to 100kHz.

External SCA, RBDS Performance
SCA Format: Externally generated, analog FM subcarriers in the range 53-99kHz.
SCA sub-band Amplitude Response: +/-0.5dB, 40kHz to 100kHz; high-pass filtered.
SCA Channel FM Signal-to-Noise Ratio: 80 dB below +6kHz subcarrier deviation at 400Hz with 150 μS de-emphasis.
Harmonic Distortion: less than 0.2% in audio pass-band of SCA generator.
Intermodulation Distortion: SMPTE (60 and 7000Hz, 1:1): 0.2% or less, no pre/de-emphasis, SCA generator low-pass filter bypassed.
Crosstalk, SCA to Stereo: 80 dB below 100% modulation, L or R channel with 75us de-emphasis.
Crosstalk, Stereo to SCA: 80 dB below 100% modulation referenced to +/-6kHz deviation and 150μs de-emphasis.
Crosstalk, SCA to SCA: 80 dB below 100% modulation (referenced to +6kHz deviation and 150μs de-emphasis per channel).

Dual Internal SCA Performance
Pre-emphasis: Selectable: 150μs, 75μs, none.
Amplitude Response: ± 0.5dB, 10Hz to 7.5kHz; selectable 4.3kHz or 7.5kHz low-pass filter.
Subcarrier Frequency: 57kHz to 99kHz in 1kHz steps.
Signal-to-Noise Ratio: 80dB with de-emphasis (150μs), 65 dB without de-emphasis at +/-6 kHz deviation.
Total Harmonic Distortion: 0.1% 10Hz to 5kHz.
SCA Deviation Capability: +/-1kHz to +/-12kHz; +/-6kHz default.
Injection Level: 2 to 20%, adjustable in 0.1% increments.
Spurious & Harmonic Performance: 2nd Harmonic: better than 40 dB below sub-carrier; 3rd Harmonic: better than 45 dB below sub-carrier; All other components: 50 Hz to 100 kHz: better than 80 dB below subcarrier.

RBDS Generator Performance
Subcarrier Frequency: 57kHz, ± 0.09 Hz.
Injection Level: 2 to 20% in 0.1% increments.

HD Radio™ Performance
Compliant with iBiquity and NRSC 5A standards. All specifications referenced to any single output frequency (87.5-108MHz), 100% rated output power, and 50 ohm test load.

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**HD EXPORTER**

The iBiquity HD codec and encoding algorithms of the HD Radio™ system are located in the exporter, enabling connection to the exciter and to the importer for advanced services such as multicasting. Generation 3 technology will allow WUFT-FM to locate the importer, exporter and all audio processing at the studio.

- Non-PC based — embedded DSP/microprocessor
- Fast start-up time
- Silent operation: No hard drives, no fans, no moving parts. No air filters to clean.
- Front-panel controls, display, confidence monitoring, pre/post delay audio level indicators and headphone jack
- Inclusive studio interface; opto-isolated control and status, with current limited source supplies
- Comprehensive GUI via PC interface over Ethernet
- Internal GPS. 1 PPT (10⁻¹²) accuracy. Maintains 15 PPB(10⁻⁹) with GPS unlocked (GPS antenna included)
- Outputs for GPS disciplined 1 PPS, 10 MHz & 44.1 KHz word clock
- Automatic fail-over audio bypass relay for main FM audio on any fault
- Integrated diversity delay. Ramp in/out and ballgame mode.
- Integrated profanity delay. Exclusive feature eliminates the need for separate profanity delay unit.
- Integrated Arbitron PPM
- Integrated 3-port 10/100 Ethernet switch
- USB port for easy provisioning, software and firmware upgrades and options
- Latest iBiquity 4.0 software featuring TCP or UDP/IP and HDP transport protocol for added reliability
- Fully compatible with Harris HDX-100 Exciter and HDI-100 Importer running v4.0 software. Software upgrades for future growth.
- Extensive GUI set up and control
HD Exporter Features:
1. Headphone Monitor: Front-panel headphone jack and associated level control allow quick monitoring of the signal.
2. Level Metering: Convenient front-panel metering is selectable between input and post delay to provide quick confidence monitoring.
3. Status Indicator: Intuitive indicator to signal system-level faults and provide a reset point.
4. Delay control: Easily accessible controls for the built-in diversity delay allow for quick ramp in and ramp out for sporting events or other live operations.
5. USB Port: A USB port is provided for system updates and for saving configurations for back-up or porting to other systems.
6. 3-Port Ethernet Switch: Integrated, high-quality 3-port, 10/100 Mb/s Ethernet switch allows direct connection of critical broadcast chain components such as the importer and STL without the need for an additional switch.
7. Audio Connections: Standard AES-3 connections for main audio in, and delay out, as well as MPS audio in and reference monitor output.
8. Arbitron PPM Support: Loop through connection for the PPM encoder to avoid corruption of the encoding process during delay adjustments.
9. GPS Integration: Internal GPS receiver provides standard synchronization for seamless HD Radio operation and provides reference outputs of 10 MHz, 1 PPS and 44.1 MHz.
10. Parallel Remote Control: Standard connectivity for remote control of analog diversity delay ramp in/out functions, system fault indicator and reset, and full control of the integrated profanity delay for connections to a delay control panel located at the studio.
11. System Reset: A recessed system reset button is available for troubleshooting without the need to remove the unit from the rack.

HD Exporter Specifications:
1. Power Requirements: 100-240 VAC 50/60 Hz, 0.3A @100 VAC
2. GPS Antenna: F type, 50 ohms for use with supplied or recommended antenna
3. Clock Outputs: BNC; 10 MHz, @ +0 dBm into 50 ohms, BNC; 44.1 KHz Word Clock, 2.5vp into 75 ohms BNC; 1 PPS 2.5vp into 50 ohms Main
4. (For Conventional Analog Modulation) AES input: XLR, 110 ohms, from 32 kHz – 96 KHz sample rates
5. MPS (For Digital Modulation) AES Input: XLR, 110 ohms, from 32 kHz – 96 KHz sample rates
6. GPS Disciplined AES Monitor Output: XLR, 110 ohms, from 44.1 KHz sample rate
7. USB Interface: USB 2.0 as Host
8. Operating Temperature: 0-40° C
9. Operating Relative Humidity: 0-90% non-condensing
10. Dimensions: 12.0 D x 19 W x 1.75 H
11. Weight: 3.8 lbs
12. Compliance: FCC Part 15, CE Mark. UL Approved power supply
13. RoHS / WEEE Status: Compliant

HD Importer

The FlexStar® HDI-100 data importer enables Advanced Applications Services (AAS), including supplemental audio channels for HD Radio™. The HDI-100 is one of several products in the Harris FlexStar® product line. FlexStar® products provide affordable, end-to-end solutions for radio’s conversion to emerging digital formats.

The HDI-100 data importer is responsible for accepting, managing and multiplexing all HD Radio Advanced Applications Services, including supplemental audio channels.

The HDI-100 is designed to offer a cost-effective method of implementing supplemental audio through
software upgrades, providing the flexibility to implement more advanced data services as they develop.

The HDI-100 will interface directly to the DEXSTAR® FMHD exciter or may be connected to the FlexStar® HDE-100 program exporter at the studio site.

Primary functions of the HDI-100 include:
1. Encoding and multiplexing of supplemental audio and supplemental audio program-associated data for transport to HDE-100 or DEXSTAR® exciter
2. Managing connections and content delivery from service providers
3. Managing system bandwidth allocation, exciter configuration and codec bit rates
4. Monitoring and reporting capabilities for scheduling, traffic and utilization reports
5. Support for iTunes® Tagging
6. Neural Neustar® audio codec multichannel preconditioning software — eliminates the need for hardware processors on the HD2/HD3 channels

Future AAS supported by the HDI-100 include:
1. Traffic information
2. Breaking news
3. Weather information and alerts
4. Stock quotes
5. Sports scores
6. Amber alerts
7. Public service announcements
8. Display advertiser information
9. Location specific advertising
10. Resale of bandwidth to third parties

Features
1. Enables single or multiple supplemental audio channels
2. Includes Lynx AES-16 high-performance audio card
3. Low-cost, rack-dense, single processor, 2RU general-purpose (GP) server
4. Compatible with DEXSTAR® and HDE-100 program exporter
5. Software upgradeable for future datacasting application

The HDI-100 includes all hardware and iBiquity importer software to encode and multiplex two channels of supplemental audio and/or multiple data channels.

System Requirements:
1. Bidirectional IP connection with DEXSTAR® or HDE-100 exporter
2. 2RU space, 19-inch EIA rack rails
3. Rack mount MAARM-KB-LCD15
4. Customer-supplied Local Area Network connection components (Cable, Ethernet switches, routers, etc.)

Hardware Specifications:
1. Server Type: Bell Microproducts, NCNR EMB Pentium® 4 3.0 GHZ 1 MB cache, ITOX 865 G chipset board, 512 MB PC2700 UB LP DDR333, SYSTIUM base chassis.
2. Operating Temperature: 10 to 35º C
3. Operating Relative Humidity: 20% to 80% (non-condensing)
4. Operating Altitude: Up to 10,000 ft AMSL
5. Dimensions: 3.5” H (2RU) x 16.75” W x 17.75” D
6. Weight: 20 lbs
7. AC Input Voltage: 110/220 VAC auto-ranging
8. Power Consumption: 280 W
9. Sound Card: Lynx AES16 SRC 24-bit audio with 8 AES3 audio inputs and outputs
10. Processor: Single Intel Pentium® 4 processor with 3.0 GHz, 800 MHz front side bus
11. Memory: Two each 256 MB PC2700 UB LP DDR333 SDRAM
12. Hard Disk Drive: BARRACUDA 7200.1 80 GB 3.5
13. CD ROM Drive: CD-ROM, ATAPI black, 52X, internal
15. Slots: Three total PCI
16. Operating System: Microsoft Windows® XP Pro SP2
17. Installed Software: Neural Audio® codec multichannel preconditioning software
18. NOTE: USE OF THIS SOFTWARE REQUIRES USB HARDWARE KEY, INCLUDED IN PURCHASE OF HDRNEUSTARSW4.0-M, SOLD SEPARATELY.
19. IO Ports:
   a. Front: Two Universal Serial Bus (USB 2.0),
   b. Rear: One 9-pin serial, four Universal Serial Bus (USB 2.0), one 15-pin VGA connector, RJ-45 Ethernet port, PS/2 mouse, PS/2 keyboard
   c. Other: Front-panel, green LED power and red LED HDD indicators, push-button reset and power switches, front-panel-accessible, reusable filter media.

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Bird Power Meter

BPME BROADCAST POWER MONITOR DISPLAY - based on BIRD TECHNOLOGIES part no. 3129 (or substantial equivalent)

1. Displays match measurements as VSWR, Rho, Return Loss, or efficiency
2. Supplies DC power to the BPME
3. Displays the BPME alarm status
4. Provides an electrical interface for the discrete outputs from the BPME
5. Provides an interface to connect a PC to the BPME
6. VSWR, return loss and match efficiency calculations using hardware or PC-based software
7. Displays
8. ±5% of reading accuracy for power, ±10% for VSWR
9. Handles peak to average ratio of greater than 10 dB

BPME LINE SECTION – based on BIRD TECHNOLOGIES part no. BPME 3 - VH (or substantial equivalent)

1. Line Size: 3 1/8 inch, Flanged
2. Power Designator: High
3. VHF: 20-50kW
Having read all of the specifications attached hereto and any addenda issued, I/we hereby propose to furnish all required materials and equipment in strict compliance with the project manual, the addenda and all other documents relating thereto or on file in the Division of Purchasing, and if awarded the contract, to deliver said equipment within the time limits specified, for the sums as enumerated herein:

1. HPX FM/HD TRANSMITTER WITH FLEXSTAR EXCITER – (based on HARRIS Part No. HARHPX40HDPL21 or substantial equivalent)
   
   **PRICE: $______________________________**

2. SCREEN / BIAS SUPPLY ASSEMBLY- (based on HARRIS Part No. HARHPXSCRNBIASOPT or substantial equivalent)
   
   **PRICE: $______________________________**

3. ENHANCED TRANSMITTER CONTROL UNIT (ASM, TCU, PPC, HPX-ENHANCED SY) (based on HARRIS Part No. HARHPXENHTCU or substantial equivalent)
   
   **PRICE: $______________________________**

4. KIT, SEMICONDUCTOR & FUSE, HPX (based on HARRIS Part No. HARHPXSFK or substantial equivalent)
   
   **PRICE: $______________________________**

5. Kit, High Output cooling, 380V High cooling kit for use when operating with elevated HD Side Bands levels (based on Harris Part No. HARHPXHIGHCOOLKIT)
   
   **PRICE: $______________________________**

6. HPX INSTALL AND COMMISSIONING - based on HARRIS PART NO. HARHPXINSERV or substantial equivalent. This includes all test equipment, travel, meals, and lodging.
   
   **PRICE: $______________________________**

7. IMPORTER, FORMAT HDI-100-EMB (based on HARRIS Part No. HARHDI-100-EMB or substantial equivalent)
   
   **PRICE: $______________________________**

8. FLEXSTAR HDE-200 EXPORTER (based on HARRIS Part No. HARHDE200 or substantial equivalent)
   
   **PRICE: $______________________________**

9. Spare Parts kit “Most extensive available”
   
   **PRICE: $______________________________**

10. Training for 4 Engineers at factory
    
    **PRICE: $______________________________**
11. Bird Power Meter BPME Part# 3129

PRICE: $________________________

12. Warranty: Standard Manufacture warranty plus 3 year parts only

PRICE: $________________________

ESTIMATED LEAD TIME (ON EQUIPMENT): ________

I hereby certify that for all statements and amounts herein made on behalf of:

______________________________
(Company or Individual Name)

I have carefully prepared this Bid Proposal from contact documents described above, I have full authority to make such statements and submit this Bid Proposal, and all statements are true and correct.

Signed this __________ day of ________________________________.

______________________________  ________________________________
(Signature)  (Printed or typed)

______________________________
(Address, City State, Zip)

______________________________  ________________________________
(Telephone)  (Fax)

Witness:

______________________________  ________________________________
(Signature)  (Printed)