



State of West Virginia  
 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

# Request for Quotation

RFQ NUMBER
EBA249

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
SHELLY MURRAY 304-558-8801

RFQ COPY

Trew Audio  
 220 Great Circle Road Suite 116  
 Nashville TN 37228

EDUCATIONAL BROADCASTING  
 AUTHORITY  
 600 CAPITOL STREET  
 CHARLESTON, WV  
 25301-1223 304-558-3400

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
02/17/2010				

BID OPENING DATE: 03/30/2010 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	LS		020-71		
<p>THE WEST VIRGINIA PURCHASING DIVISION, FOR THE AGENCY, THE WEST VIRGINIA EDUCATIONAL BROADCASTING AUTHORITY, IS SOLICITING BIDS FOR TWO (2) LOTS OF BROADCAST LOCATION PRODUCTION EQUIPMENT PER THE ATTACHED SPECIFICATIONS.</p> <p>TECHNICAL QUESTIONS MUST BE SUBMITTED IN WRITING TO SHELLY MURRAY IN THE WEST VIRGINIA PURCHASING DIVISION VIA MAIL AT THE ADDRESS SHOWN AT THE TOP OF THIS RFQ, VIA FAX AT 304-558-4115, OR VIAL EMAIL AT SHELLY.L.MURRAY@WV.GOV. DEADLINE FOR ALL TECHNICAL QUESTIONS IS 03/09/2010 AT THE CLOSE OF BUSINESS. ALL TECHNICAL QUESTIONS RECEIVED, IF ANY, WILL BE ADDRESSED BY ADDENDUM AFTER THE DEADLINE.</p> <p>EQUIPMENT, BROADCASTING</p> <p>CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN NOTICE TO THE VENDOR IF THE COMMODITIES AND/OR SERVICES SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM WITH THE SPECIFICATIONS OF THE BID AND CONTRACT HEREIN.</p> <p>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THE CONTRACT NULL AND VOID, AND TERMINATE SUCH CONTRACT WITHOUT FURTHER ORDER.</p> <p>THE MODEL/BRAND/SPECIFICATIONS NAMED HEREIN ESTABLISH</p>						

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 2010 MAR -1 AM 11:13

SIGNATURE		TELEPHONE		DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE		

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

## GENERAL TERMS & CONDITIONS REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia.
  2. The State may accept or reject in part, or in whole, any bid
  3. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
  4. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods this Purchase Order/Contract becomes void and of no effect after June 30.
  5. Payment may only be made after the delivery and acceptance of goods or services.
  6. Interest may be paid for late payment in accordance with the *West Virginia Code*.
  7. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
  8. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
  9. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
  10. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern the purchasing process.
  11. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
  12. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.
  13. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, is available online at [www.state.wv.us/admin/purchase/vrc/hipaa.htm](http://www.state.wv.us/admin/purchase/vrc/hipaa.htm) and is hereby made part of the agreement. Provided that the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
  14. **CONFIDENTIALITY:** The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf>.
  15. **LICENSING:** Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, and the West Virginia Insurance Commission. The vendor must provide all necessary releases to obtain information to enable the director or spending unit to verify that the vendor is licensed and in good standing with the above entities.
  16. **ANTITRUST:** In submitting a bid to any agency for the State of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the State of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.
- I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, or person or entity submitting a bid for the same material, supplies, equipment or services and is in all respects fair and without collusion or fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

### INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division. Complete all sections of the quotation form
2. Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Unit prices shall prevail in case of discrepancy. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
4. All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130
5. Communication during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited (W.Va. C.S.R. §148-1-6.6).



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 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

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**EBA249**

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**2**

ADDRESS CORRESPONDENCE TO ATTENTION OF:  
**SHELLY MURRAY**  
**304-558-8801**

RFQ COPY  
 TYPE NAME/ADDRESS HERE

VENDOR

SHIP TO

**EDUCATIONAL BROADCASTING  
 AUTHORITY  
 600 CAPITOL STREET  
 CHARLESTON, WV  
 25301-1223 304-558-3400**

DATE PRINTED <b>02/17/2010</b>	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
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BID OPENING DATE: **03/30/2010** BID OPENING TIME **01:30PM**

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THE ACCEPTABLE LEVEL OF QUALITY ONLY AND ARE NOT INTENDED TO REFLECT A PREFERENCE OR FAVOR ANY PARTICULAR BRAND OR VENDOR. VENDORS WHO ARE BIDDING ALTERNATES SHOULD SO STATE AND INCLUDE PERTINENT LITERATURE AND SPECIFICATIONS. FAILURE TO PROVIDE INFORMATION FOR ANY ALTERNATES MAY BE GROUNDS FOR REJECTION OF THE BID. THE STATE RESERVES THE RIGHT TO WAIVE MINOR IRREGULARITIES IN BIDS OR SPECIFICATIONS IN ACCORDANCE WITH SECTION 148-1-4(F) OF THE WEST VIRGINIA LEGISLATIVE RULES AND REGULATIONS.

**NOTICE**

A SIGNED BID MUST BE SUBMITTED TO:

DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 BUILDING 15  
 2019 WASHINGTON STREET, EAST  
 CHARLESTON, WV 25305-0130

THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:

SEALED BID

BUYER:	SHELLY MURRAY
RFQ. NO.:	EBA249
BID OPENING DATE:	03/30/2010

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
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TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
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02/17/2010				

BID OPENING DATE: 03/30/2010 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
BID OPENING TIME:				1:30 PM		
PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID:						
-----						
CONTACT PERSON (PLEASE PRINT CLEARLY):						
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***** THIS IS THE END OF RFQ EBA249 ***** TOTAL:						_____

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
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TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
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WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**EBA249****Request for Quotation****Broadcast Production Location Audio Equipment**

West Virginia Educational Broadcasting is seeking to purchase two (2) lots of broadcast production audio equipment. This equipment will function together as 2 complete location audio recording units. The location sound recording equipment will work in conjunction with High Definition video recording equipment. Many of the specifications are quite specific in order to be able to interface with specific Panasonic DVCPRO AJ-HPX 3000 high definition video camera/recorders. Bid award will be based on prices of these two lots of equipment; not inclusive of the price of options listed below.

As options, vendors are requested to submit separate bids for Lectrosonic SR or equivalent receiver adapter cables, stereo headphones, field recorder adapter cables, 5 pin XLR cables to connect a stereo mic to a camcorder, and an additional shotgun mic mini screen and cover. Options may be purchased singularly or together.

**Item #1****Wireless Microphone Receiver Units**

The wireless microphone receiver unit shall be the Lectrosonics SRa Camera Slot UHF Receiver or equivalent. The unit must be able to receive and output two independent audio signals. The signals received shall be digitally encoded on a UHF carrier. The receiver unit shall be able to decode the digital signal and convert the signal to analog audio. The unit must also be configured to fit in, receive power from and output the 2 independent audio signals to a broadcast Panasonic DVCPRO AJ-HPX 3000 HD camera/recorder via the Unislot wireless receiver slot. The wireless microphone receiver unit will be designed to fit into the Unislot. The wireless receiver units will be able to receive any of 256 frequencies within the Block 26 range (665 600-691.100Mhz) in order to be compatible with existing equipment.

The wireless microphone receiver units shall have the following features and specifications:

- Camera Unislot and stand alone adapters
- Dual receiver design for two channel or single channel ratio diversity operation
- LCD with RF spectrum scanner
- Smart Squelch for noiseless muting
- 256 selectable frequencies
- Dual channel Smart Diversity reception
- Single Channel Ratio Diversity reception
- Automatic power state restoration

-DSP based pilot tone squelch

-Rear panel and front panel audio outputs

Specifications of the wireless receiver units:

Operating Frequencies (MHz):

Block 17 470.100 - 495.600 Block 18 495.600 - 511.900 Block 19 486.400 - 511.900 Block 20 512.000 - 537.500  
Block 21 537.600 - 563.100 Block 22 563.200 - 588.700 Block 23 588.800 - 614.300  
Block 24 614.400 - 639.900 Block 25 640.000 - 665.500 Block 26 665.600 - 691.100  
Block 27 691.200 - 716.700 Block 28 716.800 - 742.300 Block 29 742.400 - 767.900  
Block 30 768.000 - 793.500 Block 31 793.600 - 819.100 Block 32 819.200 - 844.700  
Block 33 844.800 - 862.000

Frequency Adjustment Range: 25.5 MHz in 100kHz steps

Channel Separation: 100 kHz

Receiver Type: Dual conversion, superheterodyne

IF Frequencies: Ch. 1: 243.950 MHz and 250.000 kHz Ch. 2: 248.450 MHz and 350.000 kHz

Frequency Stability:  $\pm 0.001$  %

Front end bandwidth: 26 MHz @ -3 dB

Sensitivity 20 dB Sinad: 2  $\mu$ V (-101 dBm), A weighted 60 dB Quieting: 4  $\mu$ V (-95 dBm), A weighted (Single antenna measurement)

Squelch quieting: Greater than 100 dB typical

AM rejection: Greater than 60 dB, 4  $\mu$ V to 1 Volt

Modulation acceptance:  $\pm 50$  kHz Deviation

Image and spurious rejection: 85 dB

Third order intercept: 0 dBm

Diversity method: SmartDiversity or equivalent phased antenna combining or Ratio Diversity using both receivers for a single audio channel

FM Detector: Digital Pulse Counting Detector operating at 250 and 350 kHz

RF spectrum analyzer: Coarse and fine scanning modes for RF spectrum site survey

Antenna inputs: Two flexible steel fixed whips

Audio outputs connectors: • Interchangeable D connector plates; nominal 1k ohm unbalanced • Dual TA3 male (mini XLR) balanced output adapter • Balanced output adapter • Front panel TA5M with two balanced outputs

### **Item #2**

#### **Unislot Adapters for Wireless Microphone Receiver Units**

The Unislot adapters for wireless microphone receiver units shall be the Lectrosonics SRUNI or equivalent rear panel adapter. These adapters will allow the Lectrosonics Sra Camera Slot UHF receiver to fit inside, receive power from and output the 2 independent audio signals to a Panasonic AJ-HPX 3000 HD broadcast camera/recorder via the Unislot wireless receiver slot.

### **Item #3**

#### **Standalone Adapters for Wireless Microphone Receiver Units**

The standalone adapters for wireless microphone receiver units shall be the Lectrosonics SRBATTSTLEDTOP or equivalent standalone adapter. These adapters will allow the Lectrosonics Sra Camera Slot UHF receiver to be powered by rechargeable and dry cell batteries. The standalone adapters will also allow balanced analog audio signals to be accessed via independent TA3M connectors. For power, the standalone adapters will accept an L series battery or the battery adapter described below or a locking power input on the rear of the unit.

### **Item #4**

#### **9 Volt battery adapters for Standalone Adapters for Wireless Microphone Receiver Units**

The 9 volt battery adapters for the standalone adapters for wireless microphone receiver units shall be the Lectrosonics SR9VBP or equivalent 9 volt battery adapter. These adapters will allow the Lectrosonics Sra Camera Slot UHF receiver to be powered by 2 standard 9 volt batteries when used in conjunction with the SRBATTSTLED

### **Item #5**

#### **Wireless Microphone Beltpack Transmitter Units**

The wireless microphone beltpack transmitter unit shall be the Lectrosonics UM400a Digital Hybrid Wireless Beltpack UHF Transmitter or equivalent. The unit shall transmit a digital hybrid signal – a digitally encoded audio signal on a UHF carrier. The unit shall be configured to be worn on a person's waist. The transmitter unit shall be able to take an analog audio microphone input via a TA5 input connector in order to be compatible with microphones

already in the inventory of West Virginia Public Broadcasting. The transmitter unit shall be powered by a 9 volt battery. The wireless transmitter units will be able to transmit on any of 256 frequencies within the Block 26 range (665 600-691.100Mhz) in order to be compatible with existing equipment.

Features of the wireless microphone beltpack transmitter units:

- Digital Hybrid Wireless Technology
- 256 synthesized UHF frequencies
- 100 mW output power
- DSP controlled dual envelope input limiter
- DSP emulations for analog compatibility
- Servo bias input preamp
- DSP based pilot-tone signal
- Circulator/Isolator output stage
- Adjustable low frequency roll-off

Specifications of the wireless transmitter units:

Frequency selection: 256 frequencies in 100kHz steps

RF Power output: 100 mW (nominal)

Pilot tone: 25 to 32 kHz; 5kHz deviation

Frequency stability:  $\pm 0.002\%$

Deviation:  $\pm 75$  kHz (max)

Spurious radiation: 90 dB below carrier

Equivalent input noise:  $-120$  dBV (A-weighted)

Input level: Nominal 2 mV to 300 mV, before limiting. Greater than 1V maximum, with limiting.

Input impedance:

Dynamic mic: 300 Ohms

Electret lavalier: Input is virtual ground with servo adjusted constant current bias



Line level: 2.7 k Ohms

Input limiter: Dual envelope "soft" limiter; greater than 30 dB range

Gain control range: 43 dB; semi-log rotary control

Modulation indicators: Dual bicolor LEDs indicate modulation of -20, -10, 0 and +10 dB referenced to full modulation

Audio Performance (overall system)

Frequency Response: 32 Hz to 20 kHz (+/-1dB)

THD: 0.2% (typical)

SNR at receiver output:

SmartNR	No Limiting w/Limiting	
OFF	103.5	108.0
NORMAL	107.0	111.5
FULL	108.5	113.0

Input Dynamic Range: 125 dB (with full Tx limiting) Low frequency roll-off

Adjustment: -18 dB/octave; adjustable from 35Hz to 150Hz

Controls:

- Two position "ON-OFF" power switch
- Audio input gain knob
- Low frequency roll-off pot on side panel
- Two 16-position rotary switches adjust frequency

Audio Input Jack: Switchcraft 5 pin locking (TA5F)

Antenna: Detachable, flexible wire supplied

50 Ohm port allows connection to test equipment

Battery: Precision compartment auto-adjusts to accept any known 9 Volt battery

Battery Life: 5 hours (alkaline); 10 hours (lithium)

Weight: 6.98 ozs - 198 grams (including battery & antenna)

Dimensions: 3.17 x 2.48 x .84 inches

Emission Designator: 180KF3E

#### **Item #6**

#### **Wireless Microphone Handheld Transmitter Units**

The wireless microphone handheld transmitter unit shall be the Lectrosonics UT Digital Hybrid Wireless handheld UHF Transmitter or equivalent. The unit shall transmit a digital hybrid

signal – a digitally encoded audio signal on a IHF carrier. The unit shall be configured to be hand held and contain a high quality cardioid microphone element. The transmitter unit shall be powered by a 9 volt battery. The wireless transmitter units will be able to transmit on any of 256 frequencies within the Block 26 range (665.600-691.100Mhz) in order to be compatible with existing equipment.

Features of the wireless microphone handheld transmitter units:

- 100 mW RF power for long range
- 256 synthesized frequencies
- Compatible with Digital Hybrid Wireless and analog receivers
- Power switch can be locked out or used as a mute switch
- VariMic cardioid capsule with attenuator and tone controls
- Rugged, ergonomically designed machined PVC housing

Specifications of the wireless microphone handheld transmitter units:

Operating frequencies: Block 470: 470.100 - 495.600 Block 19: 486.400 - 511.900  
 Block 20: 512.000 - 537.500 Block 21: 537.600 - 563.100 Block 22: 563.200 - 588.700  
 Block 23: 588.800 - 607.900; 614.100 - 614.300 Block 24: 614.400 - 639.900 Block  
 25: 640.000 - 665.500 Block 26: 665.600 - 691.100 Block 27: 691.200 - 716.700 Block  
 28: 716.800 - 742.300 Block 29: 742.400 - 767.900 Block 944: 944.100 - 951.900

Frequency selection: 256 frequencies in 100 kHz steps

Channel Separation: 100 kHz

RF Power output: 100 mW (nominal)

Pilot tone: 25 to 32 kHz frequency (400 Series only); 5 kHz deviation

Frequency stability:  $\pm 0.002\%$

Deviation:  $\pm 75$  kHz (max)

Spurious radiation: 90 dB below carrier

Input compressor: Dual envelope compressor, >30 dB range

Gain control range: 43 dB; semi-log rotary control

Modulation indicators: Dual bicolor LEDs indicate modulation of -20, -10, 0 and +10 dB referenced to full modulation.

Frequency response 80 Hz to 20 kHz (+/- 1dB)

Low frequency roll-off: -3 dB @ 70 Hz, 36 dB/octave

Controls:

External: Power ON/OFF switch

Battery Compartment: Variable Audio Level Control and rotary Frequency Select switches.

VariMic: Attenuator and Bass/Midrange/Treble tone controls

Battery: Precision compartment auto-adjusts to accept any known alkaline 9 Volt battery.

Battery Life: 3.5 hours (alkaline); 6.5 hours (lithium) (Transmits battery status to Lectrosonics SRa transmitter.)

Weight: 12.4 ozs. with lithium battery

Dimensions: 9" long x 2.05" diameter at largest point

Emission Designator: 180KF3E

### **Item #7**

#### **Portable High-Resolution Audio Recorders**

The portable high-resolution audio recorders shall be the Sound Devices 744T or equivalent. The recorder must be a four-track file-based digital audio recorder. The recorder will record and play back audio to and from its internal hard drive, Compact Flash cards, and external FireWire drives. The recorder shall write and read uncompressed PCM audio at 16 or 24 bits with sample rates between 32 kHz and 192 kHz. Compressed (MP3) audio recording and playback from 64 kb/s to 320 kb/s shall also be supported. The recorder should also be capable of generating and recording time code for later syncing with other sources.

Features of the portable high-resolution audio recorders:

Two-channels of Sound Devices next generation microphone preamps with phantom, limiters, and high-pass filters

Channel 3 and 4 line-level inputs on TA3 connectors

Two-channel, balanced mic/line level outputs on TA3 connectors  
Input-to-track assignment with 256 possible routing combinations

Record to its internal 160 GB hard drive, removable CompactFlash card, external FireWire drive, or any combination of the three

AES3 (XLR) or AES3id (unbalanced AES on BNC) digital inputs and AES3id outputs  
Programmable, sunlight-viewable LED level metering

WAV (Broadcast Wave compliant), mono or poly files, uncompressed PCM audio

24-bit or 16-bit (with or without dither) and sampling at 32 kHz–192 kHz

Ultra-stable Ambient time code circuitry, tuneable to <0.2 PPM accuracy with all relevant TC rates

MP3 and FLAC record and playback capability

FireWire (IEEE-1394) port for high-speed data transfer to computers

6-pin modular C. Link serial input and output for unit linking and future control and expansion

Removable Li-ion rechargeable battery compatible with Sony M- and L-mount Li-ion batteries

0–18 VDC external input powers and charges on-board battery

Aluminum & stainless-steel chassis

#### Specifications of the portable high resolution audio recorders

Sampling Frequency: internal: 32, 44.1, 48, 48.048, 88.2, 96, 96.096, 176.4, 192 kHz;  
external: 32–192 kHz via word clock input

Internal Data Path and Processing: 32 bit, 192 dB dynamic range

A/D, D/A Converters: 24 bit, 192 kHz sample rate maximum

A/D Dynamic Range: 114 dB, A-weighted bandwidth 110 dB, 20 Hz – 22 kHz bandwidth

D/A Dynamic Range: 112 dB, A-weighted bandwidth 108 dB, 20 Hz–22 kHz bandwidth

Frequency Res. Mic or Line: 10 Hz–40 kHz, +0.1, -0.5 (gain controls centered), Fs 96 kHz

Equivalent Input Noise:

Mic: -133 dBu max (-135 dBV), 50 ohm source, A-weighted filter

Mic: -131 dBu max (-133 dBV) max, 50 ohm source, 20 Hz–20 kHz BW flat filter, gain fully up

Mic: -130 dBu max (-132 dBV), 150 ohm source, A-weighted filter  
 Mic: -128 dBu max (-130 dBV), 150 ohm source, 20 Hz–20 kHz BW flat filter,  
 gain fully up

THD + Noise:

Mic: 0.004% max (1 kHz, 22 Hz–22 kHz BW, gain control down, -15 dBu input);  
 Line: 0.004% max (1 kHz, 22 Hz–22 kHz BW, gain control down, +16 dBu input)

Gain: (input dBu to -20 dBFS) mic (normal gain mode): 25 to 70 dB; mic (low gain mode): 10 to 55 dB; line: -6 to 18 dB, 0.1 dB increments

Input Clipping Level:

Mic input: -5 dBu minimum (normal gain mode, gain control fully down); mic input: +10 dBu minimum (low gain mode, gain control fully down); line input: +26 dBu minimum (gain control fully down)

High-Pass Filters: 40, 80, 160, 240 Hz @ 12/18/24 dB/oct (all menu selectable)

Mic Powering: (each XLR selectable): 48 V phantom through 6.8k resistors, 10 mA per mic available, menu-selected per channel in mic or line level positions

Mic Input Limiters: analog (pre-A/D converter), dual-stage optocoupler and FET, -4 dBFS threshold, 20:1 limiting ratio, 5 mS attack time, 200 mS release time

Analog Line Output Clipping Level: +24 dBu minimum, 10k ohm load

Attenuation & Resolution 0 to 40 dB, 1 dB increments

I/O – Digital: AES3-id 75 ohm, 0.5 V p-p, S/PDIF compatible with RCA adapter

Digital Storage:

Internal hard drive ATA-5 interface 1.8-in or 2.5-in hard drive 4200–7200 RPM supported, FAT32 formatted.

Compact Flash CF type I, II, and + (microdrive) compatible, FAT32 formatted; file types: WAV or BWF, mono or polyphonic; MP3 @ 64, 96, 128, 240, or 320 kb/s stereo; utilities: format, speed test, and repair utility for internal HD and CF volumes

Data Transfer / Control: FireWire peripheral-mode, IEEE-1394a compliant, 6-pin FireWire, Windows 2000, XP, Mac OS X only: C. Link 6-pin modular input and output, RS-232 machine control, word clock, time code transfer

Metering: 76-segment (4 x 19), sunlight-viewable, selectable peak, VU, or peak (with or without peak hold) with VU ballistics, variable brightness

Time Code: modes supported: free run, record run, 24 hour run, continuous jam; frame rates 23.976, 24, 25, 29.97DF, 29.97ND, 30DF, 30ND; accuracy <0.2 ppm, when tuned with Ambient Master Controller; holds TC clock for 8 hours after main battery

removal (AA time code battery installed); after 8 hours, retains time of day

Powering: operating cell, removable 7.2 V (nominal) Sony M- or L-type Li-on, operational from 6 – 8 V; time code battery, 1.2 V AA nickel metal-hydride; power supply (external) 10–18 V, 1 A minimum, via locking 4-pin Hirose connector, use Hirose #HR10-7P-4P (DigiKey# HR100-ND) for locking mating DC connector; pin-4 = (+), pin-1 = (-) or pin-3 = (+) and pin-2=(-).

Environmental: operation and storage: ambient temperature 5–55° C, relative humidity (non-condensing) <80%

Dimensions and Weight: 45 mm x 209 mm x 125 mm (H x W x D) 1.8" x 8.2" x 4.9" mass unpackaged: 1.2 kg, (2.6 lbs) without battery

### **Item #8**

#### **32GB Compact Flash Cards**

Cards for use with Portable High Resolution Audio Recorder. Cards must have a minimum of 30MB/second sequential write and read speed.

### **Item #9**

#### **Short Shotgun Microphones**

The microphone shall be a super-cardioid/lobar short interference tube microphone with the following: frequency response 40–20,000 Hz, sensitivity (free field, no load) 25 mV/Pa  $\pm$  1 dB at 1 kHz, nominal impedance 25  $\Omega$ , min. terminating impedance 800  $\Omega$ , equivalent noise level Aweighted approx 13 dB, CCIR-weighted approx 24 dB, max. sound pressure level 130 dB at 1 kHz, phantom powering 48  $\pm$  12 V, supply current 2 mA, dimensions .74 x 9.84 inches, weight approx 5.82 oz. The microphone shall be a Sennheiser MKH 416 or equivalent.

### **Item #10**

#### **Windshields and Suspension Kits for Short Shotgun Microphones**

*S.Kits 7300*

The system shall consist of a chassis-ring, steel spine, two one-piece web suspension mounts, pistol grip and two windshield tube halves that are paired. The kits will accommodate microphones that measure 3/4 to 1" (19mm to 25mm) in diameter, and will fit microphones between 8 - 10" (200 - 255mm) long.

### **Item #11**

#### **Microphone Boom Poles**

The microphone boom poles shall be constructed mainly of graphite. The poles will have internal cables. The boom poles will be K-Tek K102 models or equivalent.

Features of the microphone boom poles:

-Length extends from 2.3' (70.10cm) to 8.9' (267cm)

- 3-pin XLR Connection
- Coiled Cable
- Side Exit XLR Connection
- 5 Telescoping Sections
- High-Density Graphite Construction
- Soft-Touch Dimpled Collars

### **Item #12**

#### **Lavalier Microphones**

The lavalier microphones will be one tenth to one inch in diameter. The lavalier microphone will be terminated with a Switchcraft TA5 connector for use with existing equipment. The lavalier microphones will have changeable frequency response curves via interchangeable caps. The lavalier microphones will be Countryman Associates model B6W4 (standard) or equivalent. The lavalier microphones will come equipped with a carrying case, windscreen, cable clips and 3 protective interchangeable caps.

Specifications of the lavalier microphones:

Frequency Response : 20 Hz to 20 kHz

Operating Current : 500  $\mu$ A

Operating Voltage : 1 to 2 Volts

Power Supply Voltage :

+3 V with 2.7 kOhm Load

+5 V with 6.8 kOhm Load

+9 V with 15 kOhm Load

Sensitivity: 16.0 mV/Pascal

Equivalent Acoustic Noise: 24 dBA SPL

Overload Sound Level: 120 dB SPL

Connector: Switchcraft TA5 female

**Item #13****Stereo Shotgun Microphones**

The stereo shotguns microphones are for mounting on video cameras. The stereo shotgun microphones shall be Audio Technica BP4029 or equivalent. These will match existing mics in West Virginia Public Broadcasting's inventory.

Specifications of stereo shotgun microphones:

ELEMENTS: Fixed-charge back plate permanently polarized condenser

POLAR PATTERNS: Line-cardioid and figure-of-eight

FREQUENCY RESPONSE: 40-20,000 Hz

LOW FREQUENCY ROLL-OFF: 80 Hz, 12 dB/octave

OPEN CIRCUIT SENSITIVITY: -30 dB (31.6 mV) / (Mid / Side / LR Stereo) -34 dB (19.9 mV) / -36 dB (15.8 mV) re 1V at 1 Pa\*

IMPEDANCE: 200 ohms

MAXIMUM INPUT SOUND LEVEL : 123 dB / 127 dB / 126 dB SPL,  
(Mid / Side / LR Stereo) 1 kHz at 1% T.H.D.

DYNAMIC RANGE: (typical) 101 dB / 101 dB / 102 dB, (Mid / Side / LR Stereo) 1 kHz at Max SPL

SIGNAL-TO-NOISE RATIO: 72 dB / 68 dB / 70 dB, (Mid / Side / LR Stereo)

PHANTOM POWER: 11-52V DC, 4 mA typical at 48V, for each channel

SWITCHES: M-S, LR Stereo-Wide (LR-W), LR Stereo-Narrow (LR-N); Flat, roll-off

WEIGHT: (less cable and accessories) 103 g (3.6 oz)

DIMENSIONS: 236.0 mm (9.29") long, 21.0 mm (0.83") diameter

OUTPUT CONNECTOR: Integral XLR5M-type

CABLE Dual 0.61 m (24") shielded two-conductor, terminated in two XLR3M-type connectors

ACCESSORIES FURNISHED AT8405a stand clamp for 5/8"-27 threaded stands;  
AT8134 foam windscreen; 5/8"-27 to 3/8"-16 threaded adapter; protective carrying case

**Item #14****Windscreens and fabric covers for stereo shotgun microphones**



The windscreens for stereo shotgun microphones shall be Rycote Miniscreens or equivalent. The windscreens will be 14cm long and be able to slip over microphones with a diameter of 19-25mm. The windscreens will be hard plastic to provide added wind protection for stereo shotgun microphones. The fabric covers shall be Rycote Windjammers for Miniscreens and be able to fit over the 14cm long windscreen to provide additional wind protection in outdoor environments.

#### **Item #15**

##### **Breakaway Umbilical Cables**

The breakaway umbilical cable will be 25-foot long and serve as a connection between portable audio recorders or mixers and video camera/recorders. The cable will have dual XLR male connectors and a 1/8" (3.5mm) mini headphone connection at the camera end. The recorder/mixer end will have connections for stereo audio output (dual XLR female) and headphone return (3.5mm) input. The recorder/mixer end will be the longer of the two cables and both sides will be joined with a quick-release 8-pin connection.

#### **Item #16**

##### **Cases for portable audio recorders**

The cases for portable audio recorders will be Porta Brace AR 7 or equivalent cases. The cases will be padded 1000 denier Cordura nylon fabric. The cases will have leather straps and be able to precisely fit the Sound Devices 744T Portable High Resolution Audio Recorder. The cases will have an additional compartment for holding extra items. The exterior dimensions of the cases shall be 8.2 x 4.9 x 1.8" (20.9 x 12.5 x 4.4cm) (WxDxH) for each case.

#### **Item #17**

##### **Cases for audio equipment**

The cases for audio equipment will be Porta Brace PC333 or equivalent cases. The cases will be padded 1000 denier Cordura nylon fabric. The cases will have leather straps. The cases will be able to hold a variety of equipment needed to gather location sound. The exterior dimensions of the cases shall be 18 x 10 x 10" (45.72 x 25.4 x 25.4cm) (LxWxH) for each case.

### **OPTIONS**

The following items shall be separately bid and may be chosen individually, or in total, as options.

#### **Item A**

##### **Cables for use with Standalone Adapters for Wireless Microphone Receiver Units**

The cables for use with standalone adapters for wireless microphone receiver units shall be 12 inches long. One end will terminate with an XLR 3 pin male connector. The other end will terminate with a Switchcraft TA3 connector.

**Item B****TA3-F to XLR-M (male) Cables (25 inches long)**

Cables for use with Portable High Resolution Audio Recorder (analog output)

**Item C****TA3-F to XLR-F (female) Cables (25 inches long)**

Cables for use with Portable High Resolution Audio Recorder (analog input)

**Item D****XLR 5 pin cables for stereo microphone on-camera use**

The XLR 5 pin cables shall be 1ft (12 inches) long and terminate on one end with an XLR 5 pin male connector and an XLR 5 pin female connector on the other end. These cables will allow a stereo microphone to be connected to a video camera/recorder via 5 pin XLR input.

**Item E****Sets of Stereo Headphones**

The stereo headphones shall be of a closed ear design and have the ability to fold for storage. The stereo headphones will feature 40mm drivers. The stereo headphones will be Sony model MDR7506 or equivalent.

Specifications of the stereo headphones:

Cord Length: 9.8ft

Driver Size: 40MM

Frequency response: 10-20kHz

Headphone Type: Dynamic, Closed

Impedance: 63 Ohms

Magnet Type: Neodymium

**Item F****Windscreens and fabric covers for stereo shotgun microphones**

The windscreens for stereo shotgun microphones shall be Rycote Miniscreens or equivalent. The windscreens will be 14cm long and be able to slip over microphones with a diameter of 19-25mm. The windscreens will be hard plastic to provide added wind protection for stereo shotgun microphones. The fabric covers shall be Rycote Windjammers for Miniscreens and be able to fit over the 14cm long windscreen to provide additional wind protection in outdoor environments.

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<u>Quantity</u>	<u>Description</u>	<u>Item Price</u>	<u>Extended Price</u>
<b>Item #1</b>			
2	Wireless Microphone Receiver Units Lectrosonics Sra Camera Slot UHF or equal	<u>1920.00</u>	<u>3840.00</u>
<b>Item #2</b>			
2	Unislots Adapters for Wireless Microphone Receiver Units Lectrosonics SRUNI or equal	<u>129.00</u>	<u>258.00</u>
<b>Item #3</b>			
2	Standalone Adapters for Wireless Microphone Receiver Units Lectrosonics SRBATTSTLEDTOP or equal	<u>250.00</u>	<u>500.00</u>
<b>Item #4</b>			
2	9 Volt battery adapters for Standalone Adapters for Wireless Microphone Receiver Units Lectrosonics SR9VBP or equal	<u>195.00</u>	<u>390.00</u>
<b>Item #5</b>			
4	Wireless Microphone Beltpack Transmitter Units Lectrosonics UM400a or equal	<u>1069.00</u>	<u>4276.00</u>
<b>Item #6</b>			
2	Wireless Microphone Handheld Transmitter Units Lectrosonics UT Digital Hybrid or equivalent	<u>1275.00</u>	<u>2550.00</u>
<b>Item #7</b>			
2	Portable High-Resolution Audio Recorders Sound Devices 744T or equal	<u>4095.00</u>	<u>8190.00</u>
<b>Item #8</b>			
2	32GB Compact Flash Cards For Portable High Resolution Audio Recorder	<u>18.00</u>	<u>36.00</u>
<b>Item #9</b>			
2	Short Shotgun Microphones Sennheiser MKH416(P48) or equal	<u>945.00</u>	<u>1890.00</u>
<b>Item #10</b>			
2	Windshields & Suspension Kits for Short Shotgun Microphones		

Rycote Zeppelin/Shockmount (S-series 300) or equal

216.00    432.00

**Item #11**

- 2 Microphone Boom Poles  
K-TEK K102GCR or equal

475.00    950.00

**Item #12**

- 4 Lavalier Microphones  
Countryman B6 or equal

389.00    1556.00

**Item #13**

- 2 Stereo Shotgun Microphones  
Audio Technica BP4029 or equal

655.00    1310.00

**Item #14**

- 2 Windscreens & fabric covers for stereo shotgun microphones  
Rycote Mini Screens & cover or equivalent for Audio Technica  
BP4029 Shotgun Mic

36.00    72.00

**Item #15**

- 2 Breakaway Umbilical Cables connecting portable audio  
recorder or mixer to camcorder(Panasonic AJ-HPX 3000)

199.00    398.00

**Item #16**

- 2 Cases for portable audio recorders  
Porta Brace AR 7 or equal

153.00    306.00

**Item #17**

- 2 Cases for audio equipment  
Porta Brace PC333 or equal

253.00    506.00

**TOTAL**

\$ 27,460

**NOTE: The bid award will be based on the "TOTAL" above and not the price of "OPTIONS" listed below.**

**OPTIONS** NOTE: Options may be purchased singularly or together.

<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Extended Price</u>
<b>Item A</b>			
4	Cables for use with Standalone Adapters for Wireless Microphone Receiver Units	<u>30.00</u>	<u>120.00</u>
<b>Item B</b>			
4	TA3-F to XLR-M (male) Cables (25 inches long)	<u>28.00</u>	<u>112.00</u>
<b>Item C</b>			
4	TA3-F to XLR-F (female) Cables (25 inches long)	<u>28.00</u> [REDACTED]	<u>112.00</u>
<b>Item D</b>			
2	XLR 5 pin cables for stereo microphone on-camera use	<u>32.00</u> [REDACTED]	<u>64.00</u>
<b>Item E</b>			
2	Sets of Stereo Headphones Sony Model MDR7506 or equal	<u>98.00</u>	<u>196.00</u>
<b>Item F</b>			
1	Windscreens and fabric covers for stereo shotgun microphones	<u>36.00</u>	<u>36.00</u>
<b>TOTAL</b>			<u>\$ 640.00</u>

State of West Virginia  
**VENDOR PREFERENCE CERTIFICATE**

Certification and application\* is hereby made for Preference in accordance with *West Virginia Code*, §5A-3-37 (Does not apply to construction contracts) *West Virginia Code*, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the *West Virginia Code*. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Resident Vendor Preference, if applicable.

1. **Application is made for 2.5% resident vendor preference for the reason checked:**  
 \_\_\_\_\_ Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or**,  
 \_\_\_\_\_ Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or** 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or**,  
 \_\_\_\_\_ Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; **or**,
2. **Application is made for 2.5% resident vendor preference for the reason checked:**  
 \_\_\_\_\_ Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or**,
3. **Application is made for 2.5% resident vendor preference for the reason checked:**  
 \_\_\_\_\_ Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or**,
4. **Application is made for 5% resident vendor preference for the reason checked:**  
 \_\_\_\_\_ Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; **or**,
5. **Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:**  
 \_\_\_\_\_ Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; **or**,
6. **Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:**  
 \_\_\_\_\_ Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (*West Virginia Code*, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: \_\_\_\_\_ Signed: \_\_\_\_\_

Date: \_\_\_\_\_ Title: \_\_\_\_\_

RFQ No EBA249

STATE OF WEST VIRGINIA  
Purchasing Division

**PURCHASING AFFIDAVIT**

**West Virginia Code §5A-3-10a states:** No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate

**DEFINITIONS:**

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount

**EXCEPTION:** The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement

Under penalty of law for false swearing (*West Virginia Code* §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated

**WITNESS THE FOLLOWING SIGNATURE**

Vendor's Name: Trey Audio, Inc.

Authorized Signature: [Signature] Date: \_\_\_\_\_

State of TENNESSEE

County of DAVIDSON, to-wit:

Taken subscribed, and sworn to before me this 24 day of February, 2010

My Commission expires 1-27, 2011

AFFIX SEAL HERE

NOTARY PUBLIC [Signature]

