Robertson County Tennessee
Jody Stewart, Finance Director
Finance Department
523 South Brown Street, Springfield, TN 37172
(615) 384-0202 Fax (615) 384-0237

POST DATE: **9/27/2016**

Cardiac Monitor/ Defibrillator/ Pacemaker

Sealed bids must be received by: **10/13/2016 at 10:00 AM**

Robertson County Finance Office
523 South Brown Street
Springfield, TN 37172

THE OUTSIDE OF THE ENVELOPE MUST BE MARKED WITH THE BIDDER'S COMPANY NAME, ITEM BID, TIME OF BID OPENING, DATE OF BID OPENING, BID NO. 1336 AND MUST BE MARKED "SEALED BID, DO NOT OPEN."

Bids are opened and read aloud to the public at the Robertson County Finance Office, 523 S. Brown Street, Springfield, TN 37172 immediately after the bid receipt deadline. Each vendor may submit more than one bid provided each bid meets the stated specifications. Each bid must be submitted in a separate sealed envelope with the appropriate notation on the outside. All bids must be signed by an authorized agent and submitted on the prescribed forms. Submission of bids by telegraph, telephone, or other electronic means is strictly prohibited. Any brand name called for the bid specifications is provided as a reference only. Alternate brand name items offered for bid must be equivalent as to function, basic design, type and quality of material, method of construction, and any required dimensions. Bidder must attach a letter of exception to specifications.

For assistance with technical / product information contact Russell Gupton, Assistant Director, EMS at (615)384-1414. For assistance with bid procedures contact Cheryl Moon, Robertson County Finance Office at (615) 384-0202 or by email: cheryl.moon@robertsoncountytn.org.

Note: Robertson County reserves the right to reject any or all bids, to waive any technicalities or informalities, and to accept any bid deemed in the best interest of the County. All bids will be considered in accordance with Title VI and without regard to age, sex, color, race, creed, national origin, religious persuasion, marital status, political belief, or disability that does not prohibit the performance of duty.

BID SCHEDULE: #1336

Robertson County is accepting sealed bid proposals for the following:

(3) New ALS 12 Lead Cardiac Monitor /Defibrillator /Pacemaker

Please provide a price based on the attached specifications.

LUMP SUM PRICE - THREE (3) AS SPECIFIED $_____ F.O.B. Delivered

Days Until Delivery From Order: _____

Price Good for: _____ Months

Non-Collusion Affidavit

The agent of the bidding firm hereby certifies to the best of his/her knowledge and belief that this bid proposal to Robertson County, Tennessee has not been prepared in collusion with any other seller of similar products. The agent also certifies that the prices, terms and conditions of said bid proposal have not been communicated by the undersigned, nor by any employee or agent of the bidding firm, to any other seller of similar products and will not be communicated to any such seller prior to the official opening of said bid. The agent further states that no official or employee of Robertson County Government has promised any personal financial or other beneficial interest, either directly or indirectly in order to influence award of this bid.

_____

Authorized Signature, Title (Owner/ Corporate Officer) Date

Printed Name:_____

_____

Company Name

_____

Mailing Address

_____

Telephone No. Fax No.

Contact email: _____

Robertson County EMS
EMERGENCY MEDICAL SERVICES
1305 Hill Street, Springfield, TN. 37172 PHONE: 615.384.2186/Fax: 615.384.1293

ADVANCED LIFE SUPPORT 12-LEAD CARDIAC MONITOR, DEFIBRILLATOR, PACEMAKER

Bid shall include pricing for:

- 3- Cardiac Monitors
- Carrying cases attachable to monitor for storage of monitor accessories, cables, and supplemental equipment for each monitor (total of 3)
- 2 new rechargeable batteries per monitor (total of 6)
- A set limb lead and 12 lead cables for each monitor (total of 3)
- A standard pulse oximetry cable with 10-12 foot extension cable for each monitor (total of 3)
- External power cord for each monitor capable of powering and charging the monitor during use. (total of 3)
- Set of NiBP cuffs for each monitor consisting of multiple sizes. (total of 3)
- Shipping and delivery costs for the above equipment included in the bid.

Monitor/Defibrillator Bid Specifications

Weight:

1. Unit shall not exceed 10.6 lbs. (4.82 kg) without battery and paper.
2. Unit shall not exceed 11.7 lbs. (5.32 kg) with battery and paper.

Dimensions:

1. Unit must not exceed 10.4 in high x 8.9 in wide x 7.9 in deep (25.4 cm high x 22.6 cm wide x 20.6 cm deep) with handle.
2. Unit must not exceed 8.75 in high x 8.9 in wide x 7.9 in deep (22.2 cm high x 22.6 cm wide x 20.6 cm deep) without handle.
3. Unit must not exceed 615 cubic inches (by volume) without handle.

Operating:

1. Unit must be capable of operating in temperatures between 0 to 50°C.
2. Unit must be capable of operating in humidity between 15 to 95% RH (non-condensing).
3. Unit must be vibration tested to meet MIL-STD 810G, Method 514.6.
4. Unit must be vibration tested to meet EN 1789 for ambulance.
5. Unit must be shock tested to meet MIL-STD 810G, Method 516.6 and tested at 75G.
6. Unit must be drop tested to meet MIL-STD 810G, Method 516.6 and tested at 1 meter with 26 drops.
7. Unit must be drop tested to meet IEC 60601-1 and tested at 2 meters
8. Unit must be capable of working at altitudes between -170 meters to 4572 meters (-557 feet to 15,000 feet).

Transport and Storage:

1. Unit must be capable of being stored at temperatures between -30 and 70°C.
2. Unit must be capable of being stored between 15 to 95% RH (non-condensing).

Environmental Protection:

1. Unit must have a minimum IP55 rating for water and solid foreign objects.

Monitor/Display:

1. Unit must have Tri-Mode display.
2. Unit must be able to change display from 'color' to 'black on white' or 'white on black' via the push of a quick access key.

3. Unit must have night vision goggle (NVG) display.
4. Unit must be able to display dynamic 12-lead ECG on screen.
5. Unit must be able to display static ECG analysis results and dynamic ECG on screen concurrently.
6. Unit must be able to display four (4) waveforms.
7. Unit must be able to display large numeric values independent of ECG or waveforms.
8. Unit must have a high resolution color liquid crystal display (LCD) as a standard feature.
9. Unit must have a screen size that is a minimum of 6.5 inches (16.5cm) diagonally.
10. Unit must have a screen with a sweep speed of 25 mm/sec or 50 mm/sec.
11. Unit must have a screen that provides a minimum viewing time of 4.87 seconds.

CPR Quality Improvement

1. The unit must provide real-time audio and visual CPR rate, depth, release feedback with a perfusion performance index.
2. The unit must provide CPR artifact filtering to allow rescuer to see underlying rhythms to minimize pauses in compressions.
2. The unit must be current AHA Guidelines compliant and upgradeable to updated AHA Guidelines as necessary.
3. The unit must provide the option for CPR data to be recorded to internal memory.
4. The unit must provide the ability to review CPR on a software program to provide a complete review of the compressions delivered.
5. The unit must provide a filter that will allow continuous chest compressions to be done for the full duration of the users CPR protocol.
6. The CPR option on the unit must be able to be used in a moving environment, such as an ambulance.
7. The CPR option must allow the option for Anterior-posterior pad placement.
8. When the CPR option is in use, the SpO_2 monitoring functionality must also be available.
9. The CPR feedback must be available with the standard pads or paddles cable connected to the unit.

Monitoring

1. Unit must be capable of patient monitoring through 3-lead, 4-lead, 5-lead and 12-lead ECG cables, multi-function electrodes and paddles.
2. Unit must have impedance pneumography for monitoring respiratory rate via ECG Leads I or II.
3. Unit must have ability to measure respiratory rate via Capnography or impedance pneumography.
4. Unit must be indicated for use on adult, pediatric and neonatal patients.
5. Unit must have a lead selector button located on front panel that allows user to change leads by pushing lead button.

6. Unit must display lead selected on display at all times.
7. Leads must be fully defibrillator protected.
8. Unit must have dedicated circuitry that detects most implanted pacer spikes.
9. Unit must display standard marker of pacer spike on ECG trace.
10. Unit must have the following bandwidths: 0.67 – 20 Hz Limited mode, 0.67 – 40 Hz Monitor mode, .25 – 40 Hz Filtered Diagnostic mode and 0.05 – 150 Hz Diagnostic mode.
11. Unit must have the following ECG sizes: 0.125, 0.25, 0.5, 1, 2, 4 cm/mV and auto-ranging.
12. Unit must show heart rate on display.
13. Unit must display a Heart Rate range between 30 – 300 bpm.
14. Unit must contain heart rate alarms that are user selectable.
15. Heart rate alarms must have an on/off indicator displayed on monitor.
16. Heart rate alarms must be capable of providing the user with an auto-generated strip chart recording, visual message and audible tone when activated.
17. In AED Mode, the unit must be able to use any of the following monitoring parameters: $EtCO_2$, SpO_2, SpCO, SpMet, 12-lead ECG and/or NIBP.

Electrodes

1. Unit must utilize Multi-Function Electrodes that allow pacing, defibrillation, cardioversion and ECG monitoring via one set of disposable pads.
2. Electrodes must be available in sizes for adults and pediatrics.
3. The Multi-Function Electrodes must allow the user to pre-connect the electrodes without compromising shelf life.
4. Electrodes must include an accelerometer to enable CPR feedback and artifact filtering functionality.
5. Adult paddles must incorporate Pediatric paddles.

Defibrillator

1. Unit must utilize a high current, low energy rectilinear, constant current biphasic waveform.
2. Unit must have the following energy selections available to provider in manual mode operation: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 30, 50, 70, 85, 100, 120, 150 and 200 joules.
3. Unit must have clinical evidence of 95% or better conversion rate at 120J.
4. Unit must have clinical evidence of >95% success on high impedance patients.
5. Unit must meet current AHA specifications for biphasic defibrillation ($\leq$200J low energy, scientific data to support efficacy claims).
6. Unit must allow provider the ability to adjust energy selection controls on device front panel or sternum paddle.
7. Unit must be able to charge to 200 Joules in 7 seconds or less with a new fully charged battery.

8. Unit must display energy selected and delivered on monitor display, strip chart recorder and code summary.
9. Unit must have a defibrillator discharge button that illuminates when device is charged and ready to deliver shock.
10. Unit must have synchronized cardioversion capability with "sync" message displayed on monitor.
11. Unit must have charge controls on both the front panel of unit, as well as, on apex paddle (if requested)
12. Unit must have optional paddles that are external anterior/anterior adult and pediatric paddles.
13. Adult paddles must slide off paddle housing to expose pediatric paddles.
14. Unit must contain a built in defibrillator tester that tests energy output and continuity of the multi-function cable and paddles documented on strip chart recorder and internal memory.
15. Unit must have a "Multi-function" therapy cable that is field replaceable.
16. Unit must have a single "Multi-function cable" that operates both multi-function electrodes and external paddles.
17. Unit must be indicated for use on adult, pediatric and neonatal patients.

Printer/Recorder

1. Unit must utilize a thermal strip chart recorder.
2. Strip chart recorder must use 80mm paper width thermal recording paper.
3. Strip chart recorder must utilize a 6 second delay.
4. Unit must have user configurable print out modes offering manual or automatic recording options initiated by alarm activation or defibrillator discharge.
5. Strip chart recorder must be able to print four (4) leads simultaneously.

Pacemaker

1. Unit must utilize a constant current 40 ms pace pulse width duration waveform.
2. Unit must have a continuously variable current level.
3. Unit must have a continuously variable pacing rate from 30 - 180 ppm.
4. Pacer parameters must be maintained when switching back to defibrillation or monitor mode.
5. The heart rate alarms must function in the pacing mode.
6. Unit must be configurable for initial setting of pacing rate.
7. Unit must display pacing rate and milliamps on display.
8. The pacer must continue to deliver life-saving therapy in the event an ECG lead falls off.
9. Unit must be able to pace through multi-function or pacing electrodes.

12-Lead ECG

1. The 12-lead ECG must not require any special hardware or proprietary software to view.
2. The 12-lead ECG parameter must reside within a defibrillator weighing less than 11.7 lbs. (5.3 kg).

3. The 12-lead ECG parameter must utilize the Inovise ECG Analysis Program
4. The 12-lead ECG parameter must allow direct transmission of 12-lead ECG to RescueNet 12-Lead via PAN Bluetooth, WiFi or USB Cell modem.
5. The 12-lead ECG must be capable of being acquired without entering deep menus and without the use of a trim knob.
6. The unit must offer an optional 0.05 to 40 Hz Diagnostic bandwidth
7. The 12-lead parameter must allow users to easily insert patient name, age and gender using soft keys on the defibrillator
8. The 12-lead parameter must allow users to print the 12-Lead Analysis Interpretation including measurements and patient name, age and gender on 80 mm paper.
9. The 12-lead patient cable must consist of 4 limb leads and a separate V-lead cable.
10. The 12-lead patient cable must be capable of providing limb lead signals directly to the defibrillator when only the limb leads are attached.
11. Unit must provide the option for integrated Bluetooth for the wireless transmission of 12-lead ECG and vital sign data to RescueNet 12-Lead.
12. Unit must provide the option for Wi-Fi for the wireless transmission of 12-lead ECG and vital sign data to RescueNet 12-Lead.
13. Unit must provide the option for USB Cell modem for the wireless transmission of 12-lead ECG and vital sign data to RescueNet 12-Lead.

Pulse Oximetry – SpO2

1. The unit must have integrated Oxygen Saturation and Heart Rate measurement.
2. The unit must have the ability to automatically display HR & SpO2 values on the screen without user intervention.
3. Alarm settings must be user configurable.
4. The unit must utilize pulse oximetry technology that has FDA 510(k) clearance for use during patient motion and low perfusion.
5. The unit must include Masimo SET/Rainbow technology.
6. The unit must utilize pulse oximetry sensors that work in bright sunlight.
7. The unit must utilize alarms that are user adjustable in the field.
8. Unit must be indicated for use on adult, pediatric and neonatal patients.

Capnography

1. The defibrillator must be capable of providing continuous $EtCO_2$ and respiratory rate readings as well as a capnogram for on-screen display or print-out.
2. The Microstream sample pump must be rated for 24,000 hours of continuous use.
3. The unit must be at full operating specification in 20 seconds or less.

4. Unit must be indicated for use on adult, pediatric and neonatal patients.

Non-Invasive Blood Pressure

1. Unit must be capable of acquiring a blood pressure measurement on inflation within 15 to 30 seconds.
2. Unit must be capable of synchronizing the oscillation to the R-wave of the ECG.
3. Unit must be capable of using dual lumen tube and/or cuffs
4. Unit must incorporate non-invasive oscillometric technology.
5. Unit must display systolic, diastolic and mean arterial (MAP) pressures.
6. Unit must be capable of taking automatic, stat or manual measurements.
7. Automatic intervals should be user adjustable to 1, 2, 3, 5, 10, 15, 30 and 60 minutes.
8. Unit must be indicated for use on adult, pediatric and neonatal patients.
9. Stat mode must allow for repeated rapid measurements within 5 minutes.
10. Unit must include an artifact indicator which is displayed when excessive artifact is detected.
11. Unit must display a numeric value for cuff inflation status.
12. Unit is capable of displaying and/or printing up to 24 hours of patient vital trend data at one minute intervals.

Battery/Charging Systems

1. Unit must be capable of using rechargeable lithium-ion batteries and come with 3x the number of batteries to operate unit at maximum capacity.
2. A new, fully charged lithium-ion batteries operating at room temperature must provide the following capacity: At least 6 hours of continuous monitoring of ECG, SpO_2, CO_2, with NIBP measurements every 15 minutes and 10 200J shocks.
3. A new, fully charged lithium-ion batteries operating at room temperature must provide the following capacity: At least 3.5 hours of pacing with ECG, SpO_2, CO_2, and with NIBP measurements every 15 minutes and pacing at 180 ppm and 140mA.
4. A new, fully charged lithium-ion battery operating at room temperature must be capable of delivering 420 shocks at 200J.
5. The battery must be easy to change.
6. The unit must offer battery option with a recharge time of 4 hours or less with the integral charger.
7. The unit must provide a LOW BATTERY indicator which displays on the monitor.
8. The unit must provide a Battery Management charger system capable of charging both sealed lead acid and lithium ion batteries.
9. The AC charger must use a standard grounded cable to operate charging system in AC mode.
10. When plugged in, the AC charger must be able to recharge a depleted lithium ion battery, operate the unit without a battery or batteries in unit and simultaneously recharge battery and operate unit.
11. The AC or charger shall be able to operate at total functionality while drawing power off of recommended vehicle inverters.

EXCEPTIONS

Please list any exceptions to the aforementioned specifications contained in your bid in detail below. Please note the page, section, and number when describing the exception.