



Robertson County Tennessee  
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*Finance Department*  
523 South Brown Street, Springfield, TN 37172  
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POST DATE: **5/20/2016**

### **HD 4 Channel Mobile Digital Video Recording System**

Sealed bids must be received by: **6/2/2016 at 2:00 PM**

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. 1328 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 in 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 Josh Hinerman, Supervisor, Schools - Transportation at (615)384-4555. For assistance with bid procedures contact Cheryl Moon, Robertson County Finance Office at (615) 384-0202 or by email: [cheryl.moon@robertsoncountytn.org](mailto: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: #1328**

Robertson County is accepting sealed bid proposals for the following:

**HD 4 Channel Mobile Digital Video Recording System for Buses**

Please provide a price based on the attached specifications.

All items must be listed individually. Quantities bid do not guarantee purchase. All purchases are dependent upon the availability of funding. Please submit bid two ways. Equipment Only and Equipment Installed.

**All equipment shall be priced FOB Delivered.**

**Please provide an Each price for Equipment ONLY in the following quantities:**

Qty	1-20	21-50	51-75	76-100
Camera cost per each				
DVR cost per each				
Software cost per each				

**Please provide an Each price for Equipment w/ Installation in the following quantities:**

Qty	1-20	21-50	51-75	76-100
DVR, Software w/ 4 Cameras				
DVR, Software w/ 3 Cameras				
DVR, Software w/ 2 Cameras				

**Camera Brand \_\_\_\_\_ DVR Brand \_\_\_\_\_ # Days from PO to DELIVERY \_\_\_\_\_**  
**Bid Prices shall remain effective 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**

**Company Name**\_\_\_\_\_

**Mailing Address**\_\_\_\_\_

**Telephone No.**\_\_\_\_\_ **Fax No.**\_\_\_\_\_

**Email address:**\_\_\_\_\_

# RFP #1328

## Robertson County Schools Transportation Department Camera Bid Specifications

### Bid Specifications

#### HD 4 Channel Mobile Digital Video Recording System

All items must be listed individually and the District reserves the right to purchase 2, 3, or 4 camera heads. Please list cost of installation separately as district reserves the right to install units for budgetary purposes.

#### **Cameras:**

- Must have a 1/3" CCD Lens
- Cameras have a minimum of 700TVLines
- Must have an Anti-Vibration Mounting Base with 4 equally positioned fasten points
- Must have an Audio Microphone with a hidden adjustment feature.
- Microphone must have an embedded sound board filter to limit and reduce the recording of engine noise and vehicle rattling
- Must have 3-axis rotation so camera can be mounted on wall or ceiling of bus
- Camera must be designed in a Vandal-Proof Dome Socket
- Available camera lens types: 2.4 MM., 2.5MM, 2.8MM, 3.6MM, 6MM & 8MM
- 24 Infra-Red LEDS must reside on 3.6MM, 6MM & 8MM Cameras
- 12 Infra-Red LEDS must reside on the 2.5MM Camera
- Must automatically adjust from day to night or night to day recording with Infra-Red
- Installation in any location with 180°flexibility
- Tamper Resistant Housing
- Min Illumination .005 Lux
- Weight not to exceed 1.012lbs
- NTSC Electronic Shutter: 1/60 ~ 1/100,000S
- Temperature Range: -30~60Cel
- Camera cable must have a single connector that has twist locking feature. Multiple connectors such as separate BNC or RCA for audio and video are not acceptable.

#### **Mobile DVR:**

- Linux 2.6 Standalone Operation System
- H.264 Video Compression Standard
- Embedded GPS Module
- GPS Antenna must connect to DVR using SMA style connector
- GPS(Map) must not occupy a camera channel
- 360° Mounting
- Support NTSC or PAL Video

# RFP #1328

## Robertson County Schools Transportation Department Camera Bid Specifications

- Camera Channels must have aviation style plugs that have twist locking connections. No Molex plugs will be considered.
- All four channels must be used for video, no channel dedicated for GPS(Map)
- Hand Held Remote Control for System Configuration and Alteration
- **DVR Must Support:** Variable resolution options: WD1 (960x586), Full D1 (720 x 480), Half D1 (720 x 240) and CIF (360 x 240).
- **DVR Must Support:** Variable Frame rate options
- **DVR Must Support:** Variable Bit Rate options
- **DVR Must Support:** Variable Frame, resolution and bit rate for each camera to be programmed independently of each other.
- 10 Total Sensors: 8 Input / 2 Output
- Sensors must be capable of being user defined and labeled either as an event or alarm
- Record to both standard 2.5" Hard Disk Drives , 2.5" Solid State Drive, 2.5" Hybrid Drive
- User defined pre & post record times for event marked files (0-60 minutes)
- HDD must be secured with a universal key.
- HDD Caddy must have security screws for extra security fastening
- The Vibration dampening system must be installed in the HDD Caddy
- HDD Caddy must be equipped with both an internal heater and cooling fan
- HDD Caddy must not be ventilated or visible expose the drive by sight
- SD Card Option for Redundant Recording
- Internal Embedded WI-FI Module with WAP2 encryption must be included
- Wi-Fi Module must reside on a field-replaceable communication board that does not required the DVR to be removed from vehicle
- Wi-Fi Module must connect to antenna using an industry standard SMA Connector
- Dimensions not to exceed (W x H x D): 7.71" x 2.81" x 8.3"
- The DVR mounting brackets must provide a .5" gap between the DVR and surface of the Bus where the DVR is mounted
- Hard Drive must recycle data using a First-in First-out Data Mode once the drive has reached its capacity
- Alarm files can be configured to be retained for a period of 10, 15, 20, 30 or 45 days
- User can program the Auto Shut Down Delay from 0 to 300 minutes
- Independent Onboard clock with 10 years shelf life (unused)
- Time Sync: GPS or NTP
- Average 10W Power Consumption
- Input Voltage Range 8V ~ 36VDC
- Support for USB Host 2.0 for backup and firmware update options
- Continuous, Time, Motion or Event based recording
- LEDs located on Front of MDVR for status indications
- DVR LEDS must include: Power, Record, Alarm
- Mobile DVR must have CE, FCC and MIL-STD-810F Certifications
- Must operate from -4 ~ 131 degrees Fahrenheit

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# Robertson County Schools Transportation Department Camera Bid Specifications

- Operation humidity range 20% ~ 95%
- System should be built with ridges to expand surface space
- Solid 16 gauge enclosure or better with black powder paint finish
- Must have protection from dirt ingress, dust penetration and moisture
- Optional RJ45 10/100BT Ethernet Port
- Weight must exceed 3lbs for system material construction and not to exceed 7lbs
- Front USB Port
- Optional RS-232 & RS-485 Ports
- Panic button must have LED Status Display
- Panic button must be provided with its own cabling with lock connector
- DVR must have a built-in accelerometer to record abrasive movements

### **Software:**

- Simultaneously view from 1-16 Cameras from various viewing panels
- Quad, Single & 4X Zoom Viewing for DVRs with 4-Channel capacities
- Selectable Audio Channel with selectable channel notification
- Easy Calendar Search appearing on same screen. Pop-up calendar search tool is not acceptable
- Retractable Calendar Window
- Separate hourly search bar for AM & PM hours
- Alarm Files are clearly distinguishable in the hour bar and Alarm Record Indicator box
- Must allow 4 Cameras to be viewed with the GPS Tracking Window. Using the 4<sup>th</sup> Camera window for GPS is not acceptable
- Software must allow users the capability to mask an area of video to conceal identity of passengers
- Software must allow users the capability to use a "Digital Zoom" option to magnify an area of the video. Photos can be taken when Digital Zoom is in use.
- Software must allow users the capability to view video frame by frame in both reverse and forward motion.
- Masking can be saved on both images and video clips
- Users must be able to save short video clips keeping video in its proprietary file type or have the ability to convert it to AVI without extra steps
- Users can save video to an optional Mini-Viewer with user assigned password for security
- Users must have the capability to export an entire day of recording to a local, network or removable storage drive
- Sensor notification must be viewed independently of the camera channels
- Sensor notification must be visible while map is displaying vehicle location
- Sensor overlay on map with time stamp. Software must be able to pinpoint the use of Stop Arms activation, warning lights, Panic Button activation and Wheel Chair lifts.
- With one quick click of the mouse user can hide the map window feature

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## Robertson County Schools Transportation Department Camera Bid Specifications

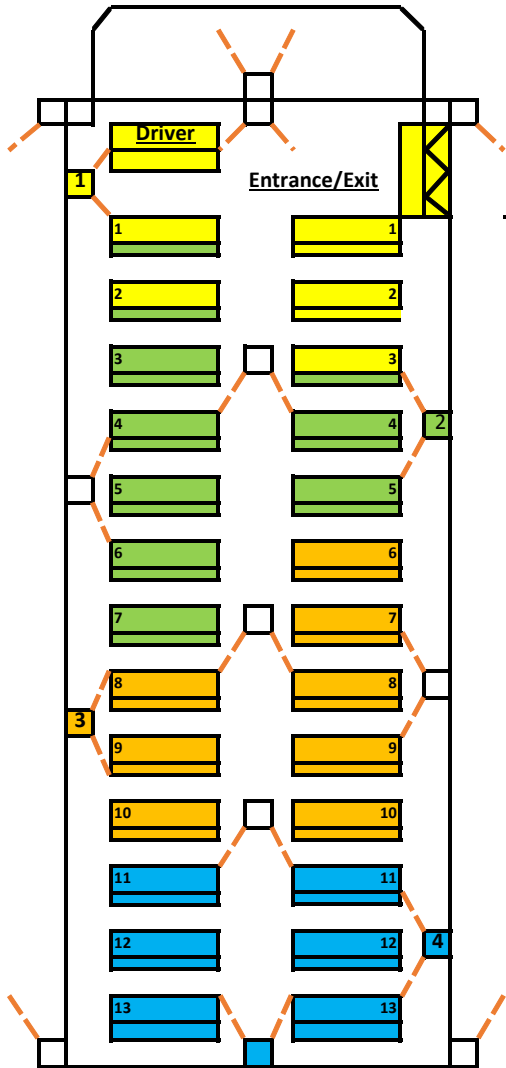
- Software must have capability to provide viewing privileges without Map Viewing privileges
- Converting video to a smaller file is done with a few simple clicks. By providing a start and end time value in pop-up window.
- All video files will be populated in the according hour box they were recorded in
- All file(s) will have the time the video recording was established
- An Hour Time Bar will exist allowing users to get to a specific moment within any hour's time
- The "Event Marked" files will be visible in an Alarm File Window
- Event/Alarm Tagged Files can be viewed by double clicking the file in the Alarm File Window
- Sensor will be labeled and will light up as they are used/triggered by driver
- Vehicle speed will be display below the map in a Digital Numeric display
- Vehicle Speed can also be seen on a chart showing momentary fluctuations of speed increase and decrease over a user defined time range
- Date and time must appear on all camera channels and map
- Direction in 360 degree radius must be displayed digitally with Direction Abbreviation (N, NW, etc..)
- Users must have access to zoom-in and zoom-out to areas on a map
- The software must have the ability to provide masking allowing users to conceal the identity of a passenger
- The software must allow users to take snapshots and video clips with the masking feature. Video clips can be saved as proprietary or converted to AVI with the masking intact.
- Software must have the ability to create AVI or ASF files on a per camera basis
- Users can create video clips with a quick scissor cut icons. Start and End scissor icons
- Users can clip video for a selected camera channel, multiple cameras or all cameras
- Retractable GPS Window and Retractable Calendar Search window with one click
- Software must generate vehicle use report. Report must include vehicle turn-on times, shut down times and the duration of use with idle time. Mileage for the intervals of use must be displayed in report along with total miles driven and vehicle use total time for a specific date. Vehicle number must be listed and user has ability to both save in PDF or Jpeg image format along with printing.
- Software must be able to generate speed reports
- Software must be able to print a list of Stop Arm activations for each day of video storage. Report must display the time of each Stop Arm activation, in chronological order for a specified data, with address of each stop. Vehicle number must be listed and user has ability to both save in PDF or Jpeg image format along with printing.
- Software must be able to generate a map with vehicle route displaying every "Stop Arm" location and other requested triggers such as brakes, turn signals and warning lights. Each stop arm location (or other trigger) must have a watermark showing the time the vehicle was at each stop.

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# Robertson County Schools Transportation Department Camera Bid Specifications

- The Map Track must list the vehicle number, date and idle times when user prints
- Users can predefine an idle time parameter for the system to report idle time and locations
- Users can print file or export file information allowing Tech Support to view the MCU version, Firmware Version and resolution settings
- Users can have access to view the Software release version
- Software updates can be performed automatically by simply checking for updates through the software.
- Software must be able to import, export and change DVR configuration remotely via Wifi, Ethernet, Cellular Connections
- Software must be able to upgrade/downgrade firmware remotely via Wifi, Ethernet, Cellular connections
- Software must be able to access DVR through Wifi, Ethernet, or Cellular connections
- Software must be able to play recorded video files directly from the DVR without having to remove the hard drive from the device. The software must be able to do so through Wifi, Ethernet, or Cellular connections.

## Camera Placement Robertson County Schools RFP



Date Requested 5/19/2016

ETA of Buses District Owned

School District/Customer Robertson County Schools

Type of System's HD 4 Camera System

Number of Buses 90-100

Camera #	Type
Camera 1	2.4 to 2.5 MM camera head
Camera 2	2.4 to 2.5 MM camera head
Camera 3	2.4 to 2.5 MM camera head
Camera 4	2.4 to 2.5 MM camera head
Camera 5	
Camera 6	
Camera 7	
Camera 8	
*Camera 5/9	

If another camera placement is needed, please mark on bus and specify in appropriate box.

**Instructions**

- 1). Place camera number inside box.
- 2). Fill in camera type (i.e. 2.8mm Mini-box)

\*Camera must be exterior and have Part #710030 switch  
 \*\*Mid-cameras should be mounted above seat backs and not in main aisle. Recessed only in main aisle

**Accessories**

<input type="checkbox"/> GPS	<input checked="" type="checkbox"/> Sensor Harn	<input checked="" type="checkbox"/> Panic Button	<input type="checkbox"/> Accelorometer	<input type="checkbox"/> Other _____
<input type="checkbox"/> End Cap Kit	<input type="checkbox"/> Wireless Bridge,	<input type="checkbox"/> 5" Pedestal for dome	<input type="checkbox"/>	<input type="checkbox"/> Other _____
<input type="checkbox"/> STOPCAM Kit		<input type="checkbox"/> Cellular Router, At&t, Vrzsn, Sprint (Circle one)	<input type="checkbox"/>	<input type="checkbox"/> 2 Camera Switch

**Notes**

2.4 to 2.5 mm Cameras to be mounted on sidewall where ceiling starts to curve. View should show 3-4 seat rows directly under camera and 7-9 rows across the aisle (see attached camera view).



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Robertson County Schools Transportation Department  
Camera Bid Specifications



**Camera #1** Over the driver facing the door



**Camera #2** located on the right side of bus ¼ way up the bus

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**Camera #3** located on the left side of the bus



**Camera #4** located on the right side towards the rear of the bus