

**CITY OF NORMAN  
POLICE DEPARTMENT**

**Request for Proposals  
Digital In-Car Video/Audio System  
and Integrated Body Worn  
Video/Audio Solution**

**Release Date  
March 17, 2014**

**RFP#  
1314-53**

# Section I

## 1.1 Proposers Information

Proposals shall be delivered to the City of Norman (hereinafter CITY) in a sealed container, clearly labeled on the outside with the RFP Reference #, Description, Closing Date and the Proposer's Name, as illustrated below:

---

RFP #            1314-53

Description:        PROPOSAL FOR VIDEO/AUDIO IN-CAR RECORDING SYSTEM  
                          AND AN INTEGRATED BODY WORN VIDEO/AUDIO SOLUTION

Closing Date:        May 19, 2014 @ 5:00PM

Proposers Name:

Proposers are required to submit their proposals prior to the closing date and time. **Proposals must be received no later than 5:00 P.M. (Central Daylight Time) May 19, 2014 in Room 125 located at 201-B West Gray Street, Norman, OK 73069.**

The City, or any official or employee thereof, will not be responsible for the pre-opening of, post-opening of, or the failure to open a proposal not properly addressed and identified.

## 1.2 City of Norman Contact Information

Proposals time-stamped after the closing date and time will not be considered.

Regardless of the method used for delivery, proposers shall be wholly responsible for the timely delivery of the submitted proposals to the address detailed below:

**Major Kevin Foster**  
**201-B West Gray Street**  
**Norman, OK 73069**

Proposers are specifically directed not to contact any City of Norman staff for meetings, conferences or technical discussions that is related to this RFP.

Unauthorized contact of any City personnel will result in proposal rejection.

All questions and requests for additional information concerning this Request for Proposal **must** be submitted in writing via email (preferred) at **Kevin.Foster@NormanOK.GOV**, or faxed to **405-366-5329 Attention Major Kevin Foster**.

### **1.3 Deadline for Submittal of Proposal Questions**

All questions and requests for additional information concerning this Request for Proposal **must** be submitted in writing via email (preferred) at [Kevin.Foster@NormanOK.GOV](mailto:Kevin.Foster@NormanOK.GOV), or faxed to 405-366-5329 Attention Major Kevin Foster.

**Question submitted after May 5, 2014 at 8:00AM will not be answered.**

### **1.4 Jurisdiction, Venue, Choice of Law**

This RFP and any resulting contract shall be governed by and construed according to the laws of the State of Oklahoma.

### **1.5 Negotiations**

The City may at its sole option, open negotiations with the highest ranked proposer after the proposal closing date and prior to award. The City also reserves the right to open negotiations with the second highest ranked proposer if negotiations with the highest ranked proposer are not successful.

### **1.6 Incurred Costs**

Those vendors submitting proposals do so entirely at their expense. There is no expressed or implied obligation by the City to reimburse any individual or firm for any costs incurred in preparing or submitting proposals, for providing additional information when requested by the City, or for participating in any selection interviews, including negotiations.

### **1.7 Assignment**

The Proposer may not reassign any award made as a result of this RFP, without prior written consent from the City.

### **1.8 Rejection**

The City reserves the right to reject any and all proposals, to waive any informality in the proposals that are received, to accept or reject any or all items in the proposal, and to award a contract in whole or in part. Moreover, the City reserves the right to make no selection if proposals are deemed to be outside the fiscal constraint or not in the best interests of the City.

### **1.9 Award**

All proposals received by the City will be reviewed to determine whether they are responsive or non-responsive to this Request for Proposal for a Turnkey Video/Audio Recording System for the Norman Police Department. Proposals that are determined to be non-responsive will be rejected. Proposers can address any part of the request, In-Car Video, Body Worn Video, or the Management System. Each

piece will be considered, however we would prefer a turnkey solution for all three. The evaluation committee will review the proposals on the criteria prescribed herein.

A contract will be awarded to the highest ranked responsible and responsive Proposer whose proposed application/solution is determined to be the most advantageous to the City, taking into consideration the price and the evaluation criteria set forth herein for each part or as an all-inclusive solution.

<b>EVALUATION CRITERIA</b>	<b>POINTS</b>
Compliance with Proposal Submission Requirements	Pass/Fail
Technical experience of the Proposer's Firm and Depth of Resources	25
Experience and Qualifications of Personnel (technical & supervisory) assigned to this project	20
Quality of proposed application/solution and ability to meet the Norman Police Department's requirements and needs	30
Satisfaction of other agencies in area who use any equipment or services provided by the Proposer	5
Past Performance of the Proposer with Contracts of Similar Size and Scope	5
Cost	15
<b>TOTAL POINTS</b>	<b>100</b>

Vendors may offer alternative proposals, which vary from this SCOPE. The City reserves the right to consider and accept such alternate proposals if, in the judgment of the City, the alternative proposal will produce a system equal to or better than the one proposed in this SCOPE. The alternative proposal must be clearly labeled as such and must clearly describe all proposed variances as they relate to this SCOPE.

## 1.10 Proposal Submission

Proposers interested in submitting a response to this RFP are required to submit EIGHT (8) 3-ring binder bound (**preferred**) copies consisting of one (1) clearly marked **original** and seven (7) clearly marked **copies**, and one (1) electronic copy on CD or DVD. The response shall be presented in the following sequences.

### Proposal Submission Sequence

- Signed copy of the proposal cover page
- Table of Contents with page numbers corresponding to each tabbed section of your proposal
- Signed copies of all addendums, if required.
- The information requested in Section (Project Specifications) of this Scope of Services
- Information requested in Section (System Technical Specifications) of this Scope of Services.
- Reference information.
- Cost Proposal – Pricing Section

**Note: All documents pertaining to cost must be submitted in a single, clearly marked sealed envelope.**

## Section II Project Specifications

### 2.1 General Requirements

It is the intent of this SCOPE to describe the minimum requirements for a SYSTEM to be used by the CUSTOMER for In-Car Video Recording, Body Worn Video Recording, and Management. It will be used to enhance the rights of subjects in patrol pursuits, document statements of citizen during routine traffic stops, enhance the effectiveness of the officers in the patrol field and to make for more accurate prosecutions. All items, details of construction, services or features not specifically mentioned which are regularly furnished in order to provide a SYSTEM shall be furnished at the RFP price and shall conform in strength, quality and workmanship to that usually provided by the practice indicated in this SCOPE, and the associated network, hardware and software.

The CUSTOMER (City) intends to purchase a SYSTEM to be installed at four different locations:

1. The main police department located at 201-B West Gray Street, Norman, OK. (40 patrol units at this location at one time for wireless data offload)
2. Norman Investigations Center located at 1507 West Lindsey Street, Norman, OK (20 patrol units at a time for wireless data offload)
3. Fleet Maintenance at pumps on East Side located at 1301 DaVinci, Norman, OK (8 patrol units at any one time for wireless data offload)
4. Fire Station 9, Southeast side located at 3001 East Alameda, Norman, OK (15 patrol units at a time for wireless data offload)

The Norman Police Department maintains a fleet of 103 marked patrol vehicles (not all vehicles will be equipped with a mobile video recording system). The marked Patrol fleet consists of 43 Individually Assigned Vehicles, two Motorcycles, two Unmarked Traffic Units, 17 Patrol Supervisor Vehicles, 31 Shared (Hot Seat) Vehicles and approximately 6 miscellaneous vehicles assigned to the Patrol Division. In addition to an in-car mobile video solution, the Norman Police Department is seeking to purchase 175 body worn video recording units that integrate with the chosen in-car video system. Approximately \$750,000 in budgetary funding has been earmarked for this project.

**The camera system will be compatible with storing video on a remote EMC Isilon system with a starting useable capacity of 30 TB minimum, which has the capability to scale to 16 total trays without adding new switch hardware. The wireless connectivity will be compatible with Cisco LWAPP connected to a Cisco wireless LAN controller. The wireless transfer will use WPA or WPA2 enterprise for authentication and at least AES 128 bit for encryption.**

This SYSTEM shall consist of Cameras, Microphones, DVR, Wi-Fi access points for wireless video off-load at above locations, Fixed End equipment, cabling and software.

The successful Proposer will be required to furnish all labor, equipment and materials to furnish and install the SYSTEM. The successful Proposer will also be required to provide a training plan for the administrator role and user training for identified CUSTOMER Staff and to include the cost of the training plan in their proposal.

Under the contract awarded from this RFP, the successful Proposer will be the single point of contact for all installation, maintenance, and support of all hardware and software acquired in the solicitation, and will be required to have the capability to support all components of this system in an integrated manner.

## **2.2 Equipment Warranty**

Proposers shall include a copy of each manufacturer's written warranty statement for each piece of equipment furnished and installed into the SYSTEM with their proposal. Proposers shall also provide the details of all warranties that are applicable to the services and equipment being provided to the City.

## **2.3 Project Manager/Key Personnel**

Proposer shall provide a full time Project Manager and key personnel who will be responsible for project oversight and delivery of the SYSTEM. The Project Manager shall be the single point of contact for the City and will be responsible for the management, implementation and on-going trouble shooting of the SYSTEM during its installation. Project Manager shall coordinate efforts with CUSTOMER Project Manager. The Project Manager shall be available to the City at all times by telephone during the course of the project and on-site within seventy-two hours of notification if necessary and requested, to respond to City needs, questions and or issues. Project Manager will develop in consultation with the City a detailed implementation and project plan for the SYSTEM.

**Resumes for all of the key personnel assigned to this project shall be provided with the proposal.**

## **2.4 Subcontractors**

The Proposer shall provide a list of names, addresses, telephone numbers, and date of births of each subcontractor the Proposer intends to employ in the installation, training and ongoing maintenance of the SYSTEM with the proposal. This information will be used to perform background checks of these personnel. The CUSTOMER reserves the right to reject any subcontractor and/or subcontractor employee. Should a subcontractor be rejected, the Proposer will be required to provide an acceptable alternate subcontractor.

Should a subcontractor fail to provide the established level of service and response, the Proposer will be required to subcontract with another agency. Such action shall be provided in a timely manner so as not to cause delays to the project schedule. Any additional costs associated with securing a competent subcontractor shall be the responsibility of the Proposer.

## **2.5 Condition of Facilities**

The Proposer shall be responsible for insuring that all CUSTOMER work areas are left in a clean and orderly fashion as the end of each day.

## **2.6 Vendor Coordination Responsibilities**

The Proposer shall be responsible for coordinating the design and installation of the SYSTEM with the City and the vendor's subcontractors and suppliers involved in this project.

## **2.7 Delivery Schedule**

**Proposer shall provide an integrated project timeline and implementation plan for the SYSTEM.** The project timeline and implementation plan shall include details for all phases of activity for each location including all deliverables and major milestones. It shall allow the project goals and deadlines of the CUSTOMER to be met. This proposed project timeline and implementation plan shall be finalized during the negotiation phase.

## **2.8 Project Implementation Status Reports**

The Proposer shall be required to provide Project Timeline and Implementation Plan updates during weekly meetings with the CUSTOMER.

## **2.9 Training**

The Proposer must provide a plan for in-depth technical training for both end user and IT staff on system components for six to eight people. All required instruction manuals, qualified instructors cost, and travel and lodging costs for instructors and class materials shall be furnished by the Proposer and included in the Cost Proposal.

## **2.10 Cost**

Proposers shall identify all costs for hardware, software, installation, project management, training, maintenance, etc. that is not provided by the City in Section – Cost Proposal. Maintenance cost shall be provided for the full contract term of five (5) years from date of SYSTEM acceptance. Price breaks should be included up to 175 body worn and up to 97 in-car systems, so the City can determine how many body worn and how many in-car systems they may want based on cost and budget.

## Section III System Technical Specifications

The SYSTEM must incorporate the following standards:

- a. Critical reliability
- b. Compatibility with existing Media Systems.
- c. Interface with Intranet managed private networks, and if adequate security can be provided and proven, the Internet
- d. Provide system / operator performance statistics
- e. Acceptable voice quality
- f. Acceptable voice and data transfer capability
- g. Protocols that are open and non-proprietary
- h. Interface with networked system clocks

### 3.1 System Architecture

Proposers shall provide a detailed description of the system to be provided, including a discussion of the system's architecture and its ability to provide service required by the CUSTOMER.

#### I. Minimum System Requirements

The following are the minimum requirements for the CUSTOMER'S SYSTEM. Where the words "will" and "must" are indicated, it means it is a mandatory requirement. Failure to meet any one mandatory requirement will result in the Proposal being found non-complaint. Where the words "should", "can", "may", "desirable" and "preferred" are indicated, it means it is a preferable but not mandatory requirement.

### 3.2 In-Car Mobile Video solution

The System must facilitate the reliable and efficient collection, storage and protection of digital evidence in the intensely challenging mobile law enforcement environment. The System must comply with IACP in-car video standards, and function with minimal officer involvement. The proposed System must aligns with the City's specification for a robust two camera/wireless microphone/stand-alone DVR system that automates the collection and wireless upload of video with minimum impact on the officer.

**The in-car system should be capable of the following:**

- Complete turnkey solution
- Very compact hardware components
- Video recorded in any of the common compression schemes (h.264, MPEG 1, 2, 4, Motion JPEG, Etc.)
- Pre- and post-event recording capable up to 5 minutes in duration
- Support for at least 4 cameras, including "High Definition" cameras
- Support for up to 12 configurable triggers
- Support for continuous recording from ignition on/off

- Automated wireless file upload capability. System should also support wired or removable media file offload to storage solution
- Evidence upload can be prioritized based on evidence tags (more important offenses uploaded first)
- Upload can be delayed if the Officer is in range but still reviewing video or completing annotations
- Full integration with a Digital Evidence Management system
- Maintains complete chain-of-custody (including events in the vehicle prior to video upload)
- Video Files must be verified for authenticity with a verification hash that meets or exceeds IACP Standards for in-car video.

### 3.3 In-Car Digital Evidence Management System

The In-Car System should have a comprehensive enterprise Digital Evidence Management system that is fully integrated with the in-car video module. In-car video and metadata will automatically flow into the evidence management application where video assets are verified as exact duplicates, and managed as evidence.

The primary features of required in the Digital Evidence Management System are detailed below:

- **Searching:** Users must be able to narrow their search by one or more criteria simultaneously from the client search page:
  - Date and time frame
  - User/Officer
  - Video objects (cabinets/folders/video file descriptions)
  - Video tags (user definable tags)
  - Source (vehicle) and area
  - Bookmarks
  - Storage type
- **Video and metadata Playback:** Clicking the thumbnail image should start the video media player. The player will play the video and associated metadata. The player supports typical functions such as play, rewind, fast forward, and stop. In addition, the player will display file functions available to the user based on permissions (verify, export, convert, burn DVD, etc.).
- **Mapping:** GPS position data should constantly be collected during an in-car video. This position data should be used to provide an interactive map that updates at the video is played back. As the video plays, the map updates to show precisely where the car is in each frame of the video.
- **File Tagging:** All assets managed in the system must be able to be assigned user definable video tags. These tags can be used to categorize assets. For example, it's common to tag video with an incident type and case number. Since tags are user definable, virtually any meta-tag should be able to be introduced to the system.
- **Video Asset Verification:** The evidence management system should use a SHA-2 hash to verify that the file ingested into the management system is an exact duplicate of the file recorded in the vehicle.

The file verification can be performed at any point forward on demand. The application will automatically verify an exact duplicate anytime an asset is moved from one storage location to another.

- **Chain of Custody:** A full evidentiary audit trail must be recorded in the system. A chronological report can quickly be generated to document who has accessed a file, what file operations have been performed on the file, and when they were performed. Reports will also be run by user or other selection criteria.
- **User or Group Permissions:** Rights and permissions will be configured within the system to allow or restrict file access or file functions. For example, a user group such as a “Patrol Commander” may have access to view, export, and write a DVD of any patrol video, whereas a group of users such as “Patrol Officers” may have rights to view their own files only. Permissions are highly configurable.
- **Digital Evidence Retention Policy:** The System should provide a configurable and easy-to-use structure for automatically managing digital evidence based on the type of event and retention period. Once digital evidence is tagged, the system can be configured to automatically trigger a workflow process based on the Norman Police Department’s retention and storage policy.
- **Workflow Management:** It is required that the video management be automated with rules and associations based on Norman Police Department’s Digital Evidence Retention Policy. For example, the system will be configured to manage a given type of offense, (e.g. DUI) for three years in primary storage and transfer to secondary storage for an additional five years; then to the recycle bin automatically.
- **Comprehensive Video File Management:** The System is to maintain all metadata associated with a video asset. Triggers and other metadata are to be integrated with the player, and viewable upon playback. This system needs to support all standard media types, as well as proprietary file types by associating the related codecs and compatible player.
- **Exporting.** The System will provide a mechanism to export video assets in their native format or convert the proprietary video asset to a Windows Compatible file format (.WMV, .MP4, Etc.) or authored format. The system will produce a DVD using the native proprietary file and player, or converts the asset to a windows compatible file and produces a DVD which is playable in Windows Media Player, or converts to authored DVD which is viewable from any standard DVD player.

### 3.4 In-car Video Solution

The solution needs to be highly reliable and durable platform for capturing, managing and storing video. The in-car video solution will consist of the following hardware and software installation per vehicle:

- Forward-facing mini-zoom camera specifically designed to maximize officer visibility
- Rear Seat Camera with Microphone
- Wireless Digital Microphone & Transmitter
- DVR equipped with 60 GB solid state hard drive
- UPS
- 3 in 1 antenna
- Wiring harness
- Mobile Management System Control (in-car Video) Software

The in-car Video System will be required to be configured to collect metadata that can be searched in the management system once it has been uploaded. Below is an outline of the kind of metadata that needs to be captured:

- **GPS, Longitude & Latitude:** Location metadata helps locate where the driver was at a specific point in time when an incident occurs. This is critically important in forensic situation when it the location of the vehicle is in question.
- **Triggers:** When the trigger is incurred, the system starts recording in response. Typical triggers in clued but are not limited to; Speed over 80mph, rifle removed from dock, Light bar activated, Impact (accident), Siren activated, rear door opened. The solution should provide support for up to 12 customizable triggers.
- **Forced Evidence Tags:** The system will be configured to require specific “Evidence Tags” at the end of a recording to catalog the incident. The department needs to be able to determine the best categories for their specific needs and then configure the system to require the user to choose from the drop down list of Evidence Tags available.

### 3.5 Body Worn Camera Solution

The purpose of this Request for Proposal (RFP) is also to acquire a Body Worn Camera System for the City of Norman Police Department which meets or exceeds all requirements of this document. The City wishes to establish an agreement for the purchase of approximately 175 Body Worn units over the period of this agreement. Acquisition of body worn cameras, hardware, software, professional services, installation maintenance and support services should be considered part of this request for proposal.

The goal of the purchase of body worn video is to enhance officer safety, officer reporting, evidence collection, and court testimony. Body worn video technology will also provide accurate documentation of events, actions, conditions, and statements made during arrests and critical incidents.

The proposed body worn video solution should meet or exceed the required specifications outlined in this document. The successful proposal may provide added value and/or functionality above and beyond the minimum requirements.

- Body worn units capable of video and audio recording
- Vendor provided software, on-site training
- Recorded video and audio must not be able to be manipulated or deleted by user
- Unit must be of rugged design and water resistant
- Ability for user to add notes or flag significant events after upload to server for ease of retrieval.
- Ability to efficiently upload recorded data to server via hard-wire, docking station or wireless upload through in-car video unit.
- Reasonable charging time for units
- Video recording devices should integrate with Norman Police Department’s proposed or existing mobile (in-car) video recording system.
- Video should be able to integrate with the City of Norman’s Asset Management Solution
- Video should be able to be downloaded and coupled with the in car video

- Have the capability to identify when the data has been altered.
- Access to back-end software reviewing the video/audio data must have audit capabilities for all users' access.
- Software retrieval process should include secured multi-users access levels.
- The video unit should contain a configurable option for the camera record resolution.

## **Detailed minimum requirements:**

### **Integrated Body Worn Solution:**

1. The system must support an integrated body worn video solution where the body worn video can be uploaded wirelessly from the car or uploaded to the secure web application using any computer on the police network.

### **Body Worn Camera:**

2. Video resolution should record in a 640x480 pixel matrix(30 FPS)
3. Video shall be in color
4. Video recorded in any of the common compression schemes (h.264, MPEG 1, 2, 4, Motion JPEG, Etc.)
5. The lens field of view should be 120 degree wide angle
6. There should be a date and time stamp on the video file
7. The solution should have a minimum 8GB internal storage capacity
8. Recording times on a 8 GB memory should be 8 hours at 640x480
9. The unit should have low light recording capability.
10. The unit should have the ability to provide a confirmation "chime" when a recording starts. This "chime" can also be disabled in the volume control settings
11. The unit should have the ability to provide a confirmation "chime" when a recording is stopped. This "chime" can also be disabled in the volume control settings.
12. The unit should allow for discreet recordings by having the ability to disable all audible confirmations.
13. The unit should have "One Touch Record" functionality.
14. The unit should utilize the AAC2 audio format
15. The unit should provide for the ability to be used as an audio recorder only
16. The unit should provide up to 100 hours of audio only recording
17. The unit should provide playback modes of 2x, 4x, and 8x speeds.
18. The unit should provide slow motion review at 1/8, 1/2, and 1/4 speeds.
19. The unit should have the ability to pause during playback.
20. The unit should have the ability to advance frame by frame during playback.
21. The unit should have the ability to advance backwards frame by frame during playback.
22. The unit should have the ability to preview files by thumbnails.
23. The unit should allow files to be played back on a PC or HD TV.
24. The units should provide the following PC compatibility: Windows Media Player, QuickTime, Real Player, and VLC Player.
25. The unit should provide 8 hours of playback time.

26. The unit should have a 2.0 USB Connection
27. The unit should be drop test rated at 6 feet.
28. The unit should utilize a Lithium Polymer (non-removable; rechargeable) 1800mAh battery.
29. The unit should be capable of continuous non-stop recording for 6 hours at 648x480.
30. The unit should have a standby life of 1 week.
31. The unit should charge from dead to full in 6 hours or less.
32. The unit should allow for charging by either an AC wall charger or by USB.
33. The unit should have a power input of 5V DC 1 Amp via charger/USB.
34. The unit should prevent users from deleting files or changing settings.
35. The unit should be password protected and require a security code to delete files.
36. The unit should have a password that is changeable.
37. The unit should allow for the following mounting methods: Belt Clip on jacket/ uniform shirt/ Epaulette.
38. The unit should be Windows XP, Vista and Windows 7 compatible.
39. The unit should utilize a USB cable to connect to a computer.
40. The unit should integrate with storage software that allows for case management of In-car Video, Interview Room Video and CCTV.
41. The unit should have its own unique ID that can be assigned to a specific user.
42. The unit should have the following certifications;
  - a. FCC Class B
  - b. CE 2004/108
  - c. RoHS
  - d. WEEE
  - e. IP53 Rations environmental testing.

### 3.6 Mobile Management Software Functionality

Once logged in, the mobile management application needs to open to the live view window defaulting to the front camera.

#### Functionality in Live Mode

The following is a description of all preferred buttons and tabs in the live view screen.

Live View Screen Buttons	
Action	Description
Record	Pressing the Record button will start Recording for the camera in the main live view tile.
Add Bookmark	Pressing the Add bookmark will add a bookmark time stamp at that point in the recording. You can later Edit the bookmark and add descriptive information in the Review section.

Live Tab	Live tab is the default live view screen where all enabled cameras can be monitored, recordings are manually started and stopped, bookmarks are added, and tagging [if enabled] can be performed.
Review Tab	Review tab will take you to the review window to review previous recordings, add and edit bookmarks and descriptions and take snapshots.
<b>PTZ Section</b>	
Zoom In/Zoom Out	PTZ section will have Zoom In and Zoom out buttons available for PTZ cameras [normal for front facing camera(s)].
Auto Zoom	Auto Zoom when pressed will zoom in, wait for pre-defined time [5 seconds default], then zoom back out to home position.
Backlight Control	Back Light Control when pressed adjusts a compatible camera's settings to accommodate the backlighting [used for night time dimly lit areas.
<b>Options Section</b>	
Snapshot	Click this button to take a snapshot of the current frame. Snapshots can be imported into the backend management system as standard media files.
Run Sound Check	Click the sound check button to confirm audio can be heard. Plays back microphone audio linked to selected camera for audio tests prior to recording.
Turn Off Sound Check	Turn off sound check button during normal operation to prevent feedback. Sound Check is off
Available Storage	Meter shows total storage space available and how much storage is already being used.
GPS	Shows GPS information [Speed, Latitude, and Longitude].
Radar	Shows Radar information. [Own speed, Target speed, and Lock speed].
Bookmark	Shows Bookmarks in current video
Basic Meta-data	Shows officer, source (vehicle), area, and camera being viewed. [This is meta-data associated with the current viewed video].
Triggers	Shows Trigger indicators.
Devices	This pane shows a live view of all available cameras.

### Buttons & Functionality in Review Mode

Record	Click this button to start a manual recording which will switch immediately to the Live view window [for emergency / to immediate start a recording if need be while reviewing instead of having to switch to live view then click record].
Add Bookmark	Click to add a bookmark at exact timestamp of currently viewed video.

List of Recordings	This window shows a list of previously recorded videos.
--------------------	---

Tag	Select to add a tag to the video. [Not the same as a bookmark. This tags the entire video not a moment in the video]
Snapshot	Click to take a snapshot of the current frame.
Stop	Stop playback.
Play/Pause	Click to start playback or pause.
Mute	Mutes the audio during playback.
Export	Exports the current video to hard drive / removable media
Time	Shows hours: minutes: seconds of current video.
GPS	Shows GPS information captured during recording.
Radar	Shows radar information captured during recording.
Bookmark	Shows bookmark information captured during recording.
Basic Meta-data	Shows basic meta-data information associated with video.
Triggers	Shows trigger information captured during recording. [Activated triggers in red].

### 3.6.1 Hardware Components

See the table below for an overview of the hardware specifications requested.

Item	Description	
<b>Front View Camera Specifications</b>	<b>MODEL</b>	
	Image Sensor	1/4" SONY Super HAD II (Double Scan) CCD or Equivalent.
	Total Pixels	NTSC : 1028(H) × 508(V) / PAL : 1028(H) x 596(V)
	Scanning system	:1 Interlace
	Scanning Frequency	NTSC : 15.734KHz(H),59.94Hz(V) / PAL: 15.625KHz(H), 50Hz(V)
	Sync. System	Internal / External (V-Lock)
	Resolution	Max 700 TV lines in color @ HR 7 mode; (750TV lines i @ HR 7 mode)
	Min. illumination	Color : 0.5 lux , BW : 0.2 lux; Color DSS: 0.001 lux, BW 0.0004 lux
	Video Output	1.0 Vp-p (75 ohm, composite)
	S/N Ratio	more than 50dB (AGC off)

	<b>LENS</b>	
	Lens type	x36 Day & Night Zoom Lens
	Zoom Ratio	Optical x36, Digital x32 Zoom
	Focal Length	f = 3.4 mm ~ 122.4 mm
	Aperture Ratio (tele)	F1.6 (wide) ~ F4.5 (tele)
	Focus	Auto / One Push / Manual
	Focus Distance	0.1 / 1.3 / 1.8 / 3.0 / 5.0 m
	E.Zoom	Off / Max x2 ~ x32
	Exposure	Auto / Shutter PRI / Iris PRI / Manual
	Gain Control	Off / On (Max 30dB)
	Shutter Speed	NTSC:1/60~1/100,000sec/PAL :1/50 ~1/100,000sec
	Iris	1 ~ 18
	Digital Slow Shutter	Off / Max x2 ~ x512
	Flickerless	Off / On
	Brightness	1 ~ 15 steps
	WDR	Off / On
	BLC	Off / On
	Day & Night	Day / Night / Auto / Ext
	White Balance	ATW / One Push / Indoor / Outdoor / Manual / Auto
	Chroma	Low / Mid / High
	Image	DNR / HR / Mirror / Sharpness / Effect / Freeze
	HLC	Off / On
	DNR	Off / Manual / Auto
	HR	Off / 1 ~ 7 steps
	Mirror	Off / V / H / H&V
	Sharpness	1 ~ 16 steps
	Effect	Off / Negative / B/W
	Freeze	Off / On
	Intelligent	MD / OD
	Motion Detection	Off/ 3 positions
	Object Detection	Off / On
	Special	Sync / Phase / Scene Mode /Comm
	Sync Mode	INT / LL
	Phase	NTSC : 0 ~ 131 steps / PAL : 0 ~ 156 steps
	Dis	Off / On
	Scene Mode	User / Normal / Traffic / Back Light / Day / Night / Casino
	Comm	Baud Rate : 2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200; Protocol : VISCA / Pelco-D / Pelco- P
	Display	Disp Sel / Init Sel / Set Title / Set Init Msg / Language / Setup Status
	Disp Sel	ID / Title / Zoom Ratio
	Init Sel	ID / Baud Rate / Protocol / Version / Init Msg
	SET Title	Text Edit
	SET Init Msg	Text Edit
	Language	English / Chinese / Korean
	Setup Status	Setup Status List
	OSD Text	0 ~ 9 , A ~ Z , a ~ z
	<b>ELECTRICAL</b>	
	Power Source	DC1 2V±1 0%

	Power Consumption	250mA	
	<b>GENERAL</b>		
	Power Input	Connector	
	Video Output	Connector	
	Operating Temperature	-10°C ~ +50°C	
	Operating Humidity	0 ~ 96% (non-condensing)	
	Storage Temperature	-20°C ~ +60°C	
	External Dimension	50W x 84L x 58H	
	Weight	220g	
	Dimensions:	2.52" (W) x 2.68" (H) x 4.70 (D)	
<b>Digital Microphone Transmitter</b>	<b>Frequency Bandwidth</b>	2400 ~ 2483MHz	
	Range	1,000+ Feet	
	LCD	8" SVGA 800 °— 3(RGB) °— 600 TFT-LCD View angle(L/R/U/D)(degree):70/70/50/70 Brightness (nit=cd/m2):1000 nits (typical) Contrast Ratio: 500 Response Time (ms):Ton: 10msec, Toff:15msec	
	Number of Channels	95	
	Channel Space	.880MHz(2.4GHz)	
	Speech Coder	32Kbps ADPCM with parity	
	Type of Modulation	GFSK	
	Data Rate	32Kbps	
	Frame Time	10ms Transmit/10ms Receive	
	TX Power Levels	250mW	
	Receiver Sensitivity	-90dBm	
	Talking Time	12 Hours Typical	
	Battery quick charging time	3 hours	
	Battery capacity	Lithium-Ion polymer 3.7VDC/1400mA	
	<b>RearSeat Digital Camera with built in Microphone</b>	<b>SPECIFICATION</b>	<b>TR360 ( NTSC)</b>
Image Device		1/3" Color SONY Super HAD CCD or equivalent	
Picture Elements		510(H)×492(V)	500(H)×582(V)
Scanning System		525 Lines, 2:1 Interlace	625 Lines, 2:1 Int
Sync System		Internal Synchronization	
Horizontal Resolution		380 TV Line	360 TV Line
Video Output		1Vp-p 75Ω	
S/N Ratio		More than 50dB (AGC Off)	
Gamma Characteristic		0.45	
Gain Control		4dB ~ 30dB Auto	
White Balance		Auto 2100° K ~ 9100° K (Push Lock)	
Electronic Shutter		1/60~1/100,000 sec (Auto)	1/50~1/100,000
Audio Output		300mV at 600Ω	
Lens		130° 2.7mm	
Lens Option		4.3mm, 6mm, 8mm, 12mm	
Smear Effect		0.005%	
Minimum Illumination		0.2 Lux (F:1.2)	
Power Consumption	12V ±10% DC, 110mA		
Operation Temperature	10°C +		

	Storage Temperature	50°C RH95% Max (14°F~122°F)
	Dimension	52.3(W)X55.3(H)X60(D)
	Cable	Standard 3M D-SUB
<b>Rugged DVR</b>	CPU:	Intel Atom N270 Processor, 1.60GHz
	System Memory:	On-board 1GB DDR2 SDRAM @ 533MHZ
	Graphic:	Intel 945GSE Native Displays
	Hard Disk:	1 x 2.5" SATA HDD (removable) 1 x SATA-DOM (OS)
	Fanless Design	Yes
	Integrated Wireless Communications:	WLAN/3G/GPS
	LAN:	1 x Gigabyte NIC(RJ45)
	Video Input/Audio Input:	8/8
	Individual Powered to Camera:	up to 8
	Video Encode Format:	H.264 H/W compression
	Video Decode Format:	MPEG2, MPEG4, VC1, WMV9, H.264
	Resolution and frame rate	Up to D1 (720x480NTSC, 720x576-PAL), 30/25fps
	Video Output:	CRT/ HTDV (YPrPb)/ LVDS
	Serial Port:	1xRS232 and 1xRS232/422/485
	USB Port:	1x USB3.0, 3xUSB2.0
	Digital I/O:	3xIn 3xOut w/ isolated
	Triggers:	19
	Internal PWR plant (MCU controlling):	Programmable firmware to secure operational in harsh environment
	DC Power Input:	8~36V
	UPS:	Yes
	Operating System:	MS Windows XP/Pro Embedded version, Linux by project base
	Environment:	MIL-STD 810F IEC60068, SAE J1113 ISO76327-2 Compliant
	Applications:	Bus/Law Enforcement
	Dimensions:	6.69 in. (W) x 6.95 in. (D) x 2.41 in.(H); 170mm (W) x 176.5mm (D) x 61.3mm (H)
Operating Temp.:	0 to 140 degrees Fahrenheit	
Temperature Shock:	MIL-STD-810F, Method 503.4, Procedures II, Figure 503.4-2	
Vibration:	MIL-STD 810F, Method 514.5, Table 514.5C-	

		VII, Figure 51. 45C-1
	Shock:	MIL-STD 810F, Method 514.5, 516.4
	Certification:	CE / FCC Class A

**3.7 Warranty/Response to Service Calls**

Proposer shall warranty the entire system (100% parts and labor) for a period of one (1) year from the date of SYSTEM acceptance. The successful proposer shall be responsible for handling all warranty work associated with the installed SYSTEM and all warranty work shall be provided on-site or remotely were applicable.

Warranties on the parts and systems should also be included, so it can be taken into consideration, including the cost of extended warranties.

Warranty support must be available eight (8) hours per day from 8AM – 4PM, Monday – Friday (holidays excluded).

**3.8 Installation**

Contractor shall be responsible for determining all conditions affecting the work.

**3.9 Bill of Materials/Descriptive Literature:**

Proposers should provide a Bill of Materials with the RFP. The Bill of Materials must list the quantity, description, manufacturer, and model number of each major component that is to be furnished and installed into the proposed SYSTEM.

## **Section IV      Proposal Evaluation**

The content of the proposal will be judged against the following criteria.

### **4.1      Requirements**

Points will be awarded for each requirement. Higher points will be given for proposed systems, which exceed the required functionality. Failure to meet requirements is sufficient cause to reject a proposal unless the reason is explained to the CUSTOMERS satisfaction in the attachment to the SCOPE. Weighting will be used when scoring requirements.

### **4.2      Desirables**

Points will be awarded for each desirable. Higher points will be given for proposed systems, which exceed the desired functionality. Failure to meet a desirable will not adversely affect a proposal beyond the loss of points for the section. Weighting will be used when scoring desirables, however, requirements will be weighted higher than desirables.