

Bid Specifications

DX12 – 12 CHANNEL MOBILE VIDEO RECORDING SYSTEM

Digital Video Recording (DVR) System Specifications

- The DVR must record 12 independent channels of video simultaneously, **“switching” systems are not acceptable.**
- The DVR must record 12 channels of audio.
- The DVR must have dual stream for lower bandwidth applications for all video channels.
- Each channel of video must record two independent video streams; each stream must be independently configurable for resolution (the purpose of the dual stream feature is to allow for high quality recording at all times with the ability to stream the second channel of video through lower bandwidth transmission mediums).
- The DVR must support data storage on dual 2.5” mobile ruggedized hard drives.
- The DVR must have hot-swappable, removable, dual drive, locking carrier.
- The DVR must support “failsafe” mode recording and switch from one to the other hard drive in case that one hard drive fails.
- The DVR hard drive must connect to a PC or laptop via a USB cable.
- The DVR must offer a “One Touch Download” feature to download recordings with a single key press.
- The DVR must be able to transfer recorded video and audio to a removable USB Flash drive.
- The DVR must be capable of both vertical and horizontal mounting, including under-mount.
- The DVR must have a wiring consolidator for ease of installation.
- The DVR must have:
 - Compression: H.264
 - Recorded Resolution: 720 x 480 (D1) plus second 360 X 240 CIF low res stream
 - Recorded Quality Settings: 4 levels, adjustable for each channel
 - Recording Rate: DVR must be capable of recording 12 independent channels of video at a resolution of 720 x 480 (D1) Resolution @ 30FPS per channel and 12 independent channels of video at a resolution of 360 x 240 (CIF) Resolution at 30 FPS per channel
 - Aggregate Recording Rate: 360 FPS - 30 FPS/camera @ 720 x 480 (D1) Resolution + second stream
 - HD cartridge: Single removable hot swappable cartridge containing two hard drives
 - Hard disk capacity: up to 2 TB
- The DVR must have automatic repeat-record when hard drive is full (user selectable on/off).
- The DVR must have alarm settings and be programmable by recording resolution, frame rate, and quality per video channel.
- The DVR must have configurable protected memory for alarms.
- The DVR must have programmable timer record settings with selectable frame rates and image quality.
- The DVR must record vehicle voltage.
- The DVR must record vehicle position, direction, and speed with an optional GPS receiver.
- Vehicle speed recording using optional speed harness; external speed conditioner NOT required.
- The DVR must record up to five functions (signals) including brake lights, stop lights, warning lights, turn signal, stop arm, wheelchair lift, etc... (user programmable).
- DVR record Delay Off: 0 - 60 min (user-selectable)
- DVR record Delay On: 0 - 60 min (user-selectable)
- DVR Power Delay **Off** 0 – 240 min (user-selectable)

Video and Data Search Playback and Display Specifications at the DVR local UI

- User interface: OSD with remote control, pointing device, web browser, vMax software suite
- Display modes: 12+1 cameras + data
- Playback rate: 1x to 32x
- Search function: By time and date or event, alarms, signals
- The DVR must have alarm settings programmable by recording resolution, frame rate, and quality per video channel.
- The DVR must have configurable protected memory for alarms.
- The DVR must have programmable timer record settings with selectable frame rates and image quality.
- Multilevel user-access control and password protection must be available.
- The DVR must record and display time and date.
- The DVR must have field-upgradeable firmware and hard drives.
- The DVR must have a built-in real time clock with automatic Daylight Savings Time adjustment (selectable on/off).
- Automatic Daylight Savings start/end dates and times setting must be configurable.
- All external signal, speed, GPS, and CAN inputs must be connected through a wiring consolidator module which can be installed in a separate location from the DVR.
- The DVR must support an optional GPS receiver for recording and displaying vehicle position, direction, and speed.
- The DVR must support geo-fencing using GPS receiver.
- The geo-fencing must have a configurable alarm.
- The geo-fencing parameters must be configurable.
- The DVR must record and display vehicle speed using optional speed harness; external speed conditioner NOT required.
- The DVR must record and displays up to ten functions (signals) including brake lights, stop lights, warning lights, turn signal, stop arm, wheelchair lift, etc... (user programmable)
- The DVR must be compatible with J1939 (CAN bus) - records and displays up to 10 signals.
- The DVR must have an on-screen voltage display.
- The DVR must have a temporary power button for operation and programming when bus is off.
- The DVR must have a programmable monitor output for quad view or toggle view of video.
- The DVR must have Power Backup Module option to connect to battery independent from the vehicle main power

Electrical Specifications

- Input voltage: 10 - 32 VDC
- Smart-Start power up protection to prevent damage from voltage transients
- Memory Back-up battery saves DVR settings for 10 years without powering the unit

Software Requirements

- The software must be able to save recordings in a proprietary format or a standard WMF format, which can be played back on a standard PC running Windows XP, XP Pro, Vista, and Windows 7.
- The HD Reader Software must be able to save recordings in a proprietary EDS format as well as in a standard AVI format, which can be played back on a standard PC running Windows XP, XP Pro, or Vista and Windows 7 OS.
- The DVR must have built in web server and be accessible via Microsoft Internet Explorer WEB browser (EI).
- The DVR firmware must be field upgradeable via the Web client software

Remote Access Specifications

- The DVR must include built in 3 (RJ45) port Ethernet switch for connection to a Vehicle Area Network (VAN), WiFi wireless bridge and a laptop PC.
- The DVR must have multilevel user access control and must be password protected.
- The DVR must support industrial Wi-Fi networking with Smart-Reach Mobile (wireless bridge) or equivalent with roaming capability. **Consumer-grade wireless bridge is not acceptable.**
- The DVR must have a temporary power button for operation and programming when bus is off.
- The DVR must have a programmable monitor output for 12-Up/Single Up view of the cameras installed in the vehicle.
- The DVR must have a front panel video output for easy setup and programming.
- The recorded video and audio can be transferred to a PC by means of the hot-swappable hard drive, USB flash drive, web application, via Local Area Network (LAN) or wireless transmission via Smart-Reach mobile (industrial wireless bridge) or equivalent.
- The DVR must be able to transfer recorded video and audio to a removable USB Flash drive.
- Recorded video and audio can be transferred to a PC by means of the hot-swappable hard drive, USB flash drive or wireless transmission via Smart-Reach mobile (industrial wireless bridge) or equivalent.

Mechanical Specifications

- The DVR must have a 18-gauge steel enclosure, powder painted finish with tamper-proof lock.
- The lock box and DVR are integrated with removable locking door for easy access to the DVR. **Separate lock box is not acceptable.**
- The door must have rounded edges for safety. **Straight edges are not acceptable.**
- The DVR must attach to a low-profile mounting plate for easy installation and removal.
- The DVR must be capable of vertical, sideways, horizontal mounting and under-mounting with the same mounting plate.
- The DVR dimensions are: 11.375" x 8.125" x 2.125" in (289 x 206 x 54 mm)

Environmental Requirements

- The DVR must have a built-in fan (reversed to draw clean filtered air into DVR); field-replaceable filter.
- The DVR must come standard with built-in internal heater.
- The DVR must have high and low temperature protection – the DVR will power up but will not start recording until a safe internal temperature is reached in order to protect temperature sensitive components such as hard drives
- The DVR must have a Smart-Start power-up protection to prevent damage from voltage transients.
- The DVR must have a Smart-Temp power-up protection to not start recording until a safe internal temperature is reached.

Warranty Requirements

- The DVR must have 3-year parts and labor warranty.
- The Hard Drives must have 3-year parts and labor warranty.

Other Requirements

- Decoy systems must use live cameras.

Inertia Sensor

- The DVR must contain an onboard accelerometer for logging data related to driver behaviour or collision detection.
- Accelerometer data must be retrieved via log file, or by playing back video synchronized with the accelerometer data to illustrate where vehicles have braked abruptly or have taken hard corners.

Excessive Engine Idle Detection

- With additional wiring, the DVR must be able to monitor the amount of time a vehicle has been left stationary with its engine running.
- The DVR must be able to be connected to a WIFI system so users can receive e-mail updates about vehicles that are repeatedly idling for longer than desired.

Brand

- **SEON EXPLORER DX12 SYSTEM**