

## MX4 - EXPLORER 4-CHANNEL FULL-FEATURED MOBILE VIDEO RECORDING SYSTEM

### Digital Video Recorder (DVR) Minimum Specifications

- The DVR must record 4 independent channels of video simultaneously, ***“switching” systems are not acceptable.***
- The DVR must record 4 channels of audio with two additional audio inputs.
- 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 2.5” mobile ruggedized hard drives.
- The DVR hard drive must be hot-swappable and mounted in a removable, locking carrier.
- 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: MPEG4
  - Recorded Resolution: Selectable 720 x 480, 720 x 240, or 360 x 240
  - Recorded Quality Settings: 4 levels, adjustable for each channel
  - Recording Rate: DVR must be capable of recording 4 independent channels of video at a resolution of 720 x 480 (D1) Resolution
  - Aggregate Recording Rate: 120 FPS - 30 FPS/ camera @ 720 x 480 (D1) Resolution
  - Hard disk capacity: Up to 750GB
- 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)

## Video and Data Search Playback and Display Specifications

- Display modes: Single camera, quad
- Playback rate: 1x to 32x
- Search function: By time and date or event, alarms, signals
- User interface: OSD with remote control, pointing device, web browser, vMax software suite
- 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 have 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.

## Electrical Specifications

- Input voltage: 8 - 32 VDC
- Smart-Start power up protection to prevent damage from voltage transients
- Back-up battery saves settings for 10 years without powering the unit

## Remote Access Specifications

- The DVR must include Ethernet network port (RJ45) for connection to a Local Area Network (LAN) or wireless modem.
- 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 quad view or toggle view of video.
- 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, 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.

## **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.
- The DVR must be capable of vertical, sideways, horizontal mounting and under-mounting.
- The DVR dimensions are: 2.5" x 7" x 9.5" (HxWxD).

## **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.
- 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.

## **Remote Access Specifications**

- 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.
- Video clip viewing software is provided at no extra charge. The software must be able to save recordings in a proprietary EDS format or a standard AVI format, which can be played back on a standard PC running Windows XP, XP Pro, Vista, and Windows 7.
- The DVR must include Ethernet network port (RJ45) for connection to a Local Area Network (LAN) or wireless modem.
- 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 quad view or toggle view of video.
- 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, 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.

### **Software Requirements**

- 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 firmware must be field upgradeable.

### **Warranty Requirements**

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

### **Other Requirements**

- Decoy systems must use live cameras.

### **Brand**

#### **SEON EXPLORER MX4 SYSTEM**

Docket #10017E