

MobileView® 7000 Series NVR Specifications

The video surveillance system shall consist of a 7000 Series Network Video Recorder (NVR) distributed by MobileView or an approved equal.

**Network Video Recorder (NVR) System specifications**

1. The NVR shall have a digital video imaging processor capable of recording video images from up to 16 digital (IP) cameras at real time (30fps) and 1080P resolution.
2. The NVR shall support the ability to individually set the following from each IP camera connected to the recorder: frame rates, image resolution, and data stream bitrate.
3. The NVR shall be capable of increasing camera resolution, bitrate, and/or frame rate on an alarm event.
4. For the alarm events, the NVR shall be capable of marking a video clip with a configurable pre and post time period. This alarm video clip shall be protected until downloaded from the system or unprotected by an authorized video reviewer.
5. The NVR shall provide the ability to simultaneously record dual streams with independent resolution, frame rate, bit rate settings and audio transmission (if available).
6. The NVR shall be capable of recording an audio channel synchronized with all IP cameras. The audio shall be compressed using a G.711 codec.
7. The NVR shall be tested and found to meet or exceed the specified standards: SAE-J1455 for shock and vibration, EN50121 for Electromagnetic Compatibility, and FCC Class A, Subpart 15 standards when operating and connected to cameras.
8. The NVR shall be powered by a 12 or 24 VDC vehicle power supply and have an operational voltage range from 9 to 32 VDC. It shall be self-regulating and internally protected from power surges and spikes.
9. The NVR shall operate within the following environmental specifications: Operating temperature of -20ºC - 55ºC and Relative humidity of 10 - 95%.
10. The NVR chassis shall provide cooling to the system and the NVR shall not utilize cooling fans or vents.
11. The system shall be no larger than 8.1" W x 4" H x 11.42" D.
12. Weight shall not exceed 15 pounds including media caddy.
13. The NVR shall store images on a lockable and removable media caddy.
14. Media caddy shall include dual 2.5" disk drives, support SSD and HDD technologies, and include storage options up to 4TB.
15. The NVR media caddy shall have a USB port for direct connection to a computer without the need for a docking station.
16. The NVR media caddy shall have shock and vibration dampening built-in.
17. The NVR shall have an accessible and dedicated service gigabit Ethernet port on the front of the device. This Ethernet port shall be behind a lockable cover or door to limit unauthorized access.
18. The NVR shall provide (12) user-configurable digital inputs, (2) user-configurable analog inputs, (2) user-configurable relay outputs that can be used to trigger events and alarms, and (3) analog video outputs.
19. The NVR shall have the following ports for data: (1) SD Card slot, (1) eSATA interface, and (1) USB port. These ports must be protected from access behind a lockable door.
20. The NVR shall incorporate a 3-axis accelerometer in its chassis that shall be capable of triggering alarm events when the G-force exceeds preset values.
21. The NVR shall have a LCD screen on the front that can display diagnostics information in plain text. Diagnostics information shall include, but not limited to: system status, HDD status, camera status, firmware version.
22. The NVR shall employ a browser-based interface for full system configuration of all parameters.
23. The NVR shall utilize configuration files to expedite the programming of the system and camera settings. The NVR shall be capable of loading and saving the system configuration file directly from the NVR through the USB port without the use of a computer.
24. The NVR shall have firmware that can be upgraded for new functionality. The NVR firmware shall support upgrade directly from the NVR through the USB port.

**NVR System Connectivity**

1. The NVR shall at a minimum support the defined J1939 network monitoring capabilities. The NVR shall communicate diagnostics information including: General fault, under/over temperature, under/over voltage, camera channel abnormal, and HDD fault. The NVR shall also be capable of receiving vehicle information over the J-1939 CAN-bus interface. Information shall include, but is not limited to: brake pedal position, accelerator position, turn signal status, bike rack status, and wheel chair ramp status.
2. The NVR can provide its current date, time, offset, and daylight time setting in response to a date-time query from the J1939 interface.
3. The NVR can be configured to set its time based on command from the J1939 interface.
4. The NVR shall have internal (to the chassis) an optional upgradeable, modular wireless communication card. This wireless card shall be compatible with 802.11 AC, AN, BGN transmission bands.
5. The NVR shall have a built-in GPS receiver. GPS hardware module shall be built into the main NVR assembly. GPS shall track vehicle location synchronized with the video and conform to NMEA standards. The NVR shall have the option to synchronize its time with a GPS device or a network time server (NTP).

**IP Cameras**

1. All cameras shall have a minimum of 1.3 megapixels and support resolutions of: 1280x960, 1280x720, 704x480, 640x480, 352x240, and 320x240.
2. All cameras shall support bit rate settings between 64Kbps – 6Mbps
3. All cameras shall support the following standards: ONVIF (Profile S), PSIA, and CGI
4. All cameras shall be capable of being powered by both PoE (802.34af) and + 12VDC
5. All cameras shall be capable of three simultaneous H.264 output streams with independent resolution, frame rate, and bit rate settings.
6. All cameras shall support an analog NTSC video output for use analog devices such as monitors. The analog output resolution shall be a minimum of 520 TVL.
7. All cameras shall have image adjustment settings for: saturation, brightness, contrast, sharpness, exposure, and picture orientation (rotate, mirror).
8. All cameras shall be true day/night with an IR cut filter.
9. All cameras shall have IR illuminators and capture images @ 0 lux at 70 IRE in B/W with IR @ f1.2 (AGC on).
10. All cameras shall have 3-axis adjustment for positioning the field of view.
11. All cameras shall support Digital Wide Dynamic Range to compensate for changing lighting conditions.
12. All cameras shall have compliance to the following standards: FCC, CE, UL, and RoHS
13. Internal cameras shall be available in the following lens sizes: 2.8mm, 4.0mm, 6.0mm, and 8.0mm
14. Internal cameras shall have a built-in microphone.
15. Internal cameras shall have environmental ratings of IP66 and IK-7.
16. External cameras shall be available in the following lens sizes: 2.8mm and 4.0mm
17. External cameras shall have environmental ratings of IP68 and IK-10
18. External cameras shall have an internal heater to defog the camera lens.

**Navigator Video Review Application**

1. Video review software shall provide basic functionality including but not limited to play forward, pause & play backwards, play with synchronized audio, move forward frame by frame, move backward frame, fast forward and reverse.
2. The software shall enable the user to save a series of individual images to a sub-directory.
3. The software shall support digitally scaling recorded video aspect ratio to fill the video display area or locking content to its original aspect ratio by user configuration.
4. The software shall allow time and date searches of recorded information
5. The software shall permit incident location via time search by direct entry into a time/date field or via drag/drop of a time line bar.
6. The software shall support the following image save methods: single image frame to file, multiple frames between times to directory and video file to directory
7. The player shall support and make visible GPS metadata.
8. The player shall support visual tracking of the vehicle on a map during video playback.
9. The software shall support writing saved video files to removable/writable media: USB, CD, DVD, and Network Location.
10. Software shall be able to create a single .exe file that contains the player and evidence file.   This file can be optionally password protected.

**Depot Manager Application Extensions**

1. The NVR shall provide facilities for seamless integration with a depot management system.
2. The depot manager system shall enable personnel to easily and remotely gather video evidence, monitor live situations, and configure and maintain a video surveillance system consisting of network video recorders and IP video cameras.
3. Depot manager system shall provide the ability to view live video from a networked device and all of its associated cameras from within the Depot Manager GUI.
4. Depot management system shall provide the ability to seamlessly manage access to partial data downloads on separate Depot Servers for the user.
5. Depot Manager shall provide the ability to add, edit, and delete a case to track maintenance of devices on vehicles.
6. Automated update of recorder configuration, software, and firmware from a central network location.
7. Depot Manager shall provide the ability to compare a Reference Image versus the camera’s Current Image to see if the camera has been tampered with or altered in anyway.
8. Depot Manager System shall require entry of security credentials to log on and off the client and server management applications.
9. The NVR shall, upon connection to the local or extended wireless network, support depot management video functions as outlined in Depot Manager A&E Specification.

**Experience in Wireless Applications**

1. Vendor shall have at least (3) Wireless projects operational in North America. (Project defined as at least 50-100 vehicles (minimum) in a fleet sending and receiving commands and/or video information).
2. Vendor shall have experience to lead the design and deployment of advanced integrated networks supporting high-capacity data downloads and low-latency data streams across a mix of Cellular, Wi-Fi, WiMAX and similar mesh technologies.
3. Vendor shall be able to design and implement wired and wireless networks to support Mobile CCTV uploads. These designs should be able to integrate into the following: existing customer domain networks, standalone extension, virtual and physical server environments, and integrating management system into corporate Wi-Fi networks and group policies
4. Vendor shall have experience accommodating different physical deployment options including but not limited to: fuel lanes, indoor & outdoor vehicle locations, rail yards (light/heavy rail), and bus yards.
5. Vendor shall have experience installing, integrating and troubleshooting simple and complex corporate network infrastructures.
6. Vendor shall have experience transmitting live video over cellular and vehicle Wi-Fi hotspots.