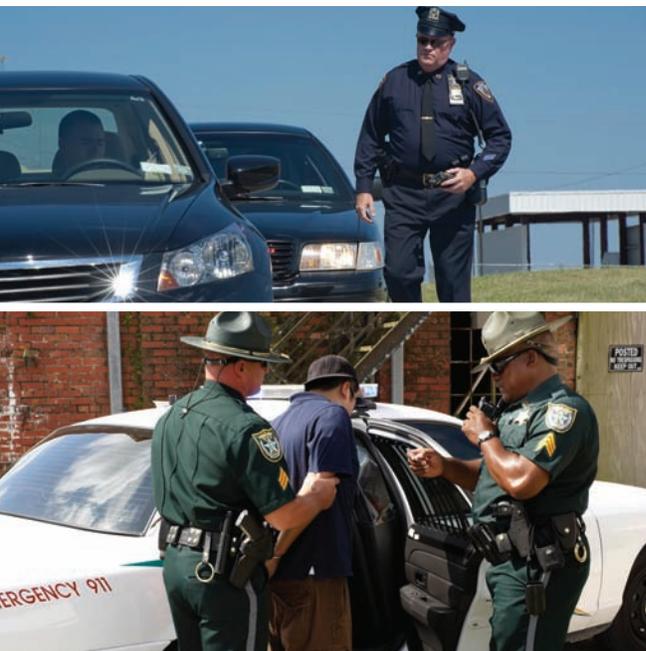




# VISUALIZING INCREASED OFFICER PROTECTION AND PRODUCTIVITY



**The MVX1000 In-Car Digital Video System offers next generation mission critical benefits that include instant ten-second rewind, a wider field of vision and integrated fixed and mobile data for incident management.**

You're parked near an intersection typing a report when a vehicle flashes by trying to make the light. Did the driver run the red light? Should you pull the vehicle over?

You stop a vehicle whose license plate indicates an outstanding warrant. With your in-car camera recording, you ask the driver to step out of the car, but as he does so, he bolts. He then resists arrest and you are forced to subdue him. As you take him back to your car, you realize that much of the incident could have been outside your vehicle camera's field of vision. Did the camera see the arrest or didn't it?

At the end of a high-speed pursuit, as the fleeing vehicle is surrounded, it rams one of the pursuing patrol cars. Was that an accident, or deliberate? Each police vehicle was recording the incident on its in-car video system, providing video evidence from three different perspectives. Unfortunately, synchronizing the three videos to fully recreate the incident will be a time-intensive, manual process.



Video is one of the police officer's best friends. It helps document incidents ranging from basic traffic stops to the subduing of violent arrestees to the use of firearms. It helps corroborate that offenses have been committed. It helps convict offenders by providing compelling visual evidence. Perhaps most important, it helps protect officers from false charges of excessive force or unprofessional behavior. According to the International Association of Chiefs of Police (IACP), 93 percent of officers accused of misconduct are exonerated by in-car video<sup>1</sup>.

<sup>1</sup> Source: "The Impact of Video Evidence on Modern Policing," International Association of Chiefs of Police

# NEXT-GENERATION PUBLIC SAFETY VIDEO

The MVX1000 digital video system is part of Motorola's ongoing development of powerful Next Generation Public Safety solutions designed for mission critical use. The MVX1000 is an efficient in-car and backend video capture and management

solution that combines high-quality video, reliable ruggedized construction, an intuitive touch-screen interface and innovative functionalities designed to better protect both the public and the officer.

## THE MVX1000 DIFFERENCE

How would the MVX1000 system make a difference in these scenarios?



In the first scenario, as soon as the vehicle flashes past and goes through the intersection, you push the MVX1000's Ten-Second Rewind button. The system automatically skips back ten seconds, and the recording shows that the light was still yellow. In ten seconds, the system has helped eliminate an unnecessary traffic stop and saved you a considerable amount of time and effort.

In scenario two, as you walk the offender back to your vehicle, you're thankful for the MVX1000's expanded field of vision. Most video systems meet IACP guidelines that specify a 40-degree field of view; at a 35-foot distance from the vehicle, this captures only a 24-foot span. The MVX1000 goes well beyond those guidelines with a 63.3-degree field of view that captures a 43-foot span at the same distance. You're confident that the MVX1000 system will have captured the entire incident to protect you from potential false misconduct accusations.

In the third scenario, each of the police vehicles has an MVX1000 unit. This allows the command

center to use the MVX1000's NICE Inform™ Mobile backend software to combine the video from each police vehicle into a single incident folder. This enables automated synchronization of the three video sources, eliminating the need to do so manually. The result is a detailed timeline showing three different perspectives, one of which clearly demonstrates that the driver rammed the police vehicle intentionally.

The MVX1000 is a rugged, solid-state and compact in-car video solution designed to make life easier for public safety officers in the field and in the command center. System components include front and rear cameras, a back seat camera with infrared, and wired and wireless microphones. Ruggedized to stringent MIL-STD-810G and IP54 standards and designed for mission-critical work, the system is compact enough to fit easily into the crowded cockpit of a patrol car, and can also be located in the trunk of a vehicle. The MVX1000 also offers maximum flexibility, with multiple upload options, scalability that ranges from a few cars to thousands of vehicles and the ability to upgrade the system to support fixed video surveillance and audio log data.



# IN THE FIELD

Mounted into a public safety vehicle, the MVX1000 keeps its eyes and ears on the road at all times, front and rear, capturing crucial video and audio with reliability and quality.



## DISTRACTION-FREE INTERFACE

In periods of maximum stress, the MVX1000 helps reduce officer distraction with an intuitive, ergonomically designed interface with function buttons logically located and easily recognizable. The system also includes an optional separate compact control head with a five-inch LCD touch screen. The smaller unit includes an onscreen virtual keyboard for entering information and an interface with icons, graphics and information flow that mimics the MDT-based interface, allowing officers to use either interface with minimal retraining.

## WHAT JUST HAPPENED?

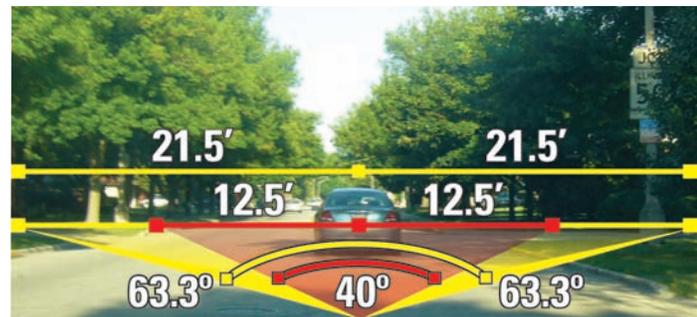
With up to three-minutes of video buffer before and after recording, the MVX1000 begins capturing an incident even before you know it needs to be captured. In addition, the MVX1000's exclusive feature lets you see anything you may have just missed. When you hit the Ten Second Rewind button, the system instantly plays back the last ten seconds, ensuring that you get the corroboration you need in time to act on it. Press several times to go back 20 seconds, 30 seconds or more.

## WHO HAS TIME TO PRESS "RECORD"?

Police officers have enough to deal with when responding to a call; they shouldn't have to remember to press the "Record" button on their video unit. The MVX1000 offers a wide range of configurable options for automatically starting the recording process without officers having to interrupt their thoughts and actions. These include tying automatic video recording to activities such as activating the lights or siren, exceeding a set speed, opening the shotgun lock or other agency-defined triggers.

## TAKING A WIDER VIEW

Most in-car video systems follow IACP guidelines that call for a 40-degree field of view from the front video camera. With a stopped vehicle 35 feet away, this allows for recording an area that encompasses 12.5 feet on either side of the center of the vehicle. Recognizing that a great deal of activity often takes place beyond this area, the MVX1000 is designed to use a front camera with a 63.3-degree field of view, capturing activity 21.5 feet on either side of the center of the stopped vehicle. This greatly increases the probability that the MVX1000 will capture critical activities to make the case or refute false accusations.



## QUALITY YOU CAN SEE

Officers know it, prosecutors know it, and juries know it: not all video is the same. To be truly useful as evidence, video needs to be of high enough quality to clearly identify relevant information such as faces or license plates. The MVX1000 uses the H.264 compression standard, requiring less storage space while retaining high image quality. In addition, front and back cameras include a 27X optical zoom

## MDT DISPLAY

Buttons are large for easy touch screen operation, even while wearing gloves. Most commonly used functions are largest and easy to find.

**Ten-second rewind:** quickly review the last ten seconds of video.

**Blackout:** instantly darken the screen when you need to be covert



**View selector** lets you preview other camera angles.

**Microphone status** indicator clearly shows which microphones are live.



**Night mode screen:** a darker screen designed to reduce glare at night.

## 5" DISPLAY

Most common functions have dedicated, backlit buttons



**Record** and **Bookmark** buttons are in corners, so they can be located without taking eyes off the road.

### Night mode screen



Touch screen interface is easy to operate, even while wearing gloves.



lens that provides greatly magnified views that maintain high resolution. In contrast, many systems offer only an 8X or 10X optical zoom, after which they rely on digital zoom, which reduces image quality. The system also has a discreet backseat camera with infrared capabilities that capture video images even in complete darkness.

## UPLOAD INSIDE AND OUT

When it comes time to upload video to the command center, it's good to have options. The MVX1000 allows officers to upload data in three different ways. You can literally remove the solid-state drive and take it into the facility with you, or you can plug into a port in the garage to upload over an Ethernet cable. The MVX1000 adds a third, even more convenient option: faster, more reliable wireless uploading. The system offers Motorola's 802.11n technology with 3X3 MIMO antennas that delivers uploads at theoretical speeds of up to 300 Mbps (as opposed to about 54 Mbps for 802.11g systems).

## IT'S A CAR, NOT A CUBICLE

Anyone who's ever driven or ridden in a police car knows it's not for the faint of heart, especially during pursuit. Equipment that is at home in the office is not meant for mission critical fieldwork. The MVX1000

has been developed to the toughest military and industry standards for resistance to extreme temperatures, vibration, shock, humidity, dust and other harsh conditions, offering the reliability all first responders can rely on incident after incident.

## Multiple-Input Multiple-Output (MIMO)

What is MIMO? It is a method of transmitting data over multiple transmitters to multiple receivers. This helps overcome interference and other challenges: even if one antenna is adversely affected, odds are the other two are not. If interference is not a problem, then each antenna can send a different portion of data – virtually doubling or tripling the throughput.

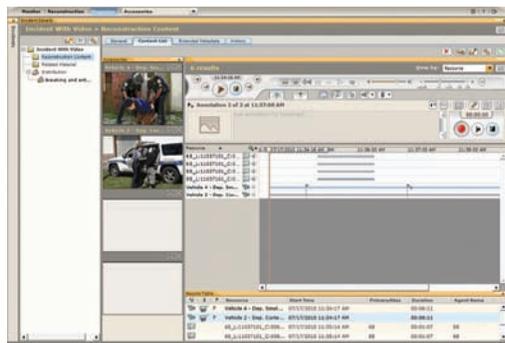
MVX1000 uses three antennas to send and receive data. When matched with an access point that can also send and receive over three antennas, such as the Motorola AP-7131 or AP 7181 the result is 3x3 MIMO, which lets the officer quickly complete the upload and get back on patrol.

# IN THE COMMAND CENTER

Capturing video evidence is only the beginning; managing it efficiently and effectively is just as important. In addition to its exceptional performance in the field, the MVX1000 performs equally reliably and intelligently in the back office, allowing for easily added metadata information, comprehensive search capabilities and automatic retention and deletion of captured incidents.

## INTEGRATED RECONSTRUCTION

The MVX1000 includes the Inform Mobile Digital Video Management System, a powerful, self-contained incident management system developed in conjunction with NICE Systems, Inc. Inform Mobile lets an agency combine and synchronize videos from several vehicles, for multiple views of an incident. It can also integrate with other NICE data management systems that track fixed video surveillance or audio loggers. Now all types of files from an incident — fixed and mobile video, radio communications and even 9-1-1 calls — can be correlated to create comprehensive incident records, synchronized and searchable by time and other variables.



## INSTANT SEARCH

With its powerful digital storage capabilities, the MVX1000 helps eliminate hard-to-manage, space-consuming tape and DVD storage systems that may degrade over time. Digital records in the system are instantly searchable by all metadata fields such as incident classification, making finding relevant data simpler and faster. In addition, digital records are easier and less expensive to back up and restore.

## CHAIN OF CUSTODY

The MVX1000 system includes automatic audit logging to provide verifiable authentication for each

archived record. The log enables investigators to instantly see all notable activities for each record during and after recording, and to establish a proven chain of custody for evidentiary purposes.



## AUTOMATED RETENTION COMPLIANCE

The MVX1000 system is configurable to departmental retention and archival policies and procedures. It also offers the ability to automatically search the system for incidents that have reached their expiration period, and then delete the storage-intensive audio and video files while retaining metadata records for future reference.

## DESIGNED FOR MISSION CRITICAL

The Motorola MVX1000 In-Car Video Digital System delivers mission critical video performance in the field and in the command center. The MVX1000 is a powerful, intuitive video capture and management system that public safety and law enforcement professionals can always depend on. On the street. In the back office. And in front of a judge or jury.

## TRUSTED SOLUTIONS

Combining advanced new technological capabilities with the reliability of the industry's most trusted mission critical solutions, Motorola provides real-time sharing of crucial voice, data and video communications where they're needed most. For more information on how Motorola can serve the needs of your community through our Next Generation Public Safety solutions, please visit our Web site at [motorola.com/nextgen](http://motorola.com/nextgen) or call your Motorola representative.

## TECHNOLOGY THAT'S SECOND NATURE™

At the heart of every mission is the ability to communicate in an instant to coordinate response and protect lives. Today, Motorola is putting real-time information in the hands of mission critical users to provide better outcomes. Our powerful combination of next generation technologies are transforming public safety operations by strengthening the mission critical core with broadband connections, rich-media applications, collaborative devices and robust services. It's Technology That's Second Nature.





[www.motorola.com/mvx1000](http://www.motorola.com/mvx1000)



**MOTOROLA**

Motorola, Inc. 1301 E. Algonquin Road, Schaumburg, Illinois 60196 U.S.A. [motorola.com](http://motorola.com)

MOTOROLA and the stylized M Logo are registered in the U.S. Patent and Trademark Office. All other product or service names are the property of their respective owners. © Motorola, Inc. 2010

GO-33-109 MVX