

Case Study

Digital evidence management—standard issue for the future

By Amie Hoffner

In-vehicle cameras are becoming commonplace in the law enforcement community. According to the 2003 *Law Enforcement Management and Administrative Statistics Study* (LEMAS), 55% of all local patrol vehicles use in-vehicle cameras. While archiving and distributing in-vehicle video was primarily done on VHS tape in the past, new technology has departments switching to a digital format with output on DVD.



L-3 Communications Mobile-Vision, located in Boonton, NJ, has installed more than 60,000 digital management systems in more than 5,000 state and local law enforcement agencies and sees a migration from VHS to digital. "There is a shift going from VHS to digital. And when needed for court, digital to DVD is becoming the standard," said Chris Kadoch, vice president of New Business Development and chief scientist at L-3 Communications Mobile-Vision. "We've found that many departments are switching to digital based on usability, labor savings and increased features."

After seven years of using VHS tape, the Paso Robles Police Department outside of San Luis Obispo, CA, migrated to a digital process. "We had several reasons for going digital," said Lieutenant Robert Burton of the Paso Robles Police Department. "We had to wait for officers to drop the tape at a secure location at the end of every shift before the video could be viewed, and then we had to rewind and fast forward to find

the incident. This process was taking hours and days when we needed video in minutes. With a digital format, I can search video instantly and watch it from my desktop."

Burton helped select the Flashback Digital Video Recorder with Digital Evidence Series Pro (DES Pro) from L-3 Communications Mobile-Vision. The new in-vehicle video recording and management system captures, stores, manages and retrieves digital video and data that is recorded and stored in the patrol vehicle's hard drive. At the completion of each shift, the digital video and data is fed wirelessly to a police department server where it is viewed by the DES Pro software. When a discovery request is made, incidents can be retrieved and burned to DVD.

Primera Technology, a development partner of L-3 Communications Mobile-Vision, provides the Bravo II Disc Publisher to archive and distribute video content to DVD for L-3's complete digital content management solution. Once the video is located in the DES Pro software, Primera Technology's Bravo II uses a robotic arm to first record the disc and then inkjet print directly to the disc without the use of labels. These discs are then archived or entered into evidence during court proceedings.

Mark Strobel, vice president of sales and marketing at Primera Technology, said many police departments were switching from VHS to DVD for increased features and capabilities. "DVD offers high-quality output, increased storage capacity, a longer life span, and it's searchable," he said. "These features make VHS virtually obsolete and show digital to DVD to be the far superior method for the archival and distribution of video and data in police departments and law enforcement agencies."

Larry Gray, systems administrator for the Amarillo Police Department in Texas said VHS was great in a living room, but not in the trunk of a Crown Victoria. "VHS is dirty, it's grainy and during chases, we have gaps where video wasn't recorded," Gray said. "We moved to a digital to DVD process because it's extremely reliable and searchable."

The Amarillo Police Department employs in-vehicle video capture and management solutions in 72 of its vehicles. Video feeds wirelessly from



patrol cars to a four terabyte server. The DES Pro software catalogues and searches by date, time, officer and vehicle. Moreover, prosecutors, uniformed supervisors, internal affairs and traffic investigators with security clearance can also search the software to view video remotely.

The DES Pro software intelligently manages the video throughout its lifetime migrating video from server to DVD and back as needed. When 4 GB of incoming video is collected, the content is burned to DVD for archiving. Each disc is printed with a sequential number and catalogued for quick retrieval. Content remains on the server for three weeks, at which time it is rewritten. All video and content remain in the DES Pro software for quick search and retrieval.

Gray said the in-vehicle video capture and management solution has enabled the department to make a much more effective presentation



in court. "With VHS, officers were only able to testify as witnesses to traffic accidents because we didn't have it on tape." Gray added, "Now with pre-event recording, the officer can hit the record button and capture 60 seconds of video prior to the record button being hit. It's really cool in court, because the officer witnessed the accident and has the video as evidence."

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In-vehicle cameras also protect officers when citizen complaints arise. "We've found that video more often exonerates an officer rather than convicts one," Gray said. "While there are many elements to an exoneration, video is the primary piece, and the high-quality video DVD displays is becoming a very large part of law enforcement."

Changing from VHS to digital has been so successful for the Amarillo Police Department, that other departments in the area will soon be using digital formats. "Two local sheriff's offices saw our success and are now planning to move from VHS to DVD," Gray said.

Kadoch said L-3's system is superior because its product is completely automated. "Video cap-

ture, pre-event recording, classification, load balancing for mission-critical content, wireless transfer, multiple precinct communication, searchability and output to DVD are all automated functions saving time and making video a tool for professional compliance, training, documentation and prosecution."

But Kadoch says in-vehicle video is just the beginning, and L-3 is looking toward the future of case digital content management, as well. "Everyone in law enforcement knows everything will eventually be recorded. Our systems now have the capability to create case folders on the server holding all digital content including video from multiple sources, photos, audio files, scientific data and any other form of digital con-

tent." Case folders then can be easily archived and distributed to DVD. Kadoch said, "Unlike VHS tape, DVDs have a long life span and do not need to be kept in climate-controlled rooms to preserve quality."

Digital content management systems vary in price based on employed features and the size of the patrol fleet. Kadoch estimated that prices were about \$5,000 per vehicle, and 60 to 90 days is the average install time. For departments using VHS systems, cameras and other items can be repurposed for use with a digital system. ■

Amie Hoffner is the PR manager at Primera Technology, the world's leading developer and manufacturer of CD and DVD duplication and printing systems.