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TM-05-91 *Video Incident Capture System*

By Supt. W. Eaton

TECHNICAL MEMORANDUM

Submitted by
OIC General Enforcement Branch

September 1991

NOTE: Further information about this report can be obtained by calling the CPRC information number (613) 998-6342

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EXECUTIVE SUMMARY

TM-05-91

VIDEO INCIDENT CAPTURE SYSTEM

The technical and field evaluations of the Video Incident Capture System(VICS), was carried out by several RCMP operational units. The concept of interfacing the video system with a traffic radar unit is a valuable asset to police investigators and the courts. In-car video systems appear to be useful and the evaluation report supports further exploration of this technology.

VIDEO INCIDENT CAPTURE SYSTEM (VICS) - EVALUATION
GENERAL ENFORCEMENT BRANCH
SEPTEMBER 1991

In May 1990, two in-car video systems (WCS) were purchased, from Crimtec Corporation of Auburn Michigan. They were installed in RCMP division for evaluation purposes. Initially VICS was interfaced with Decatur radar units. However, since Decatur radar is not approved for use by the RCMP they were modified to Kustom radar units. Two Kustom radar units were purchased and modified to interface with VICS for the in-car video evaluation.

Evaluators:

1. "K" Division: - favourable
2. "A" Division: - favourable with minor problems
3. Telecoms Engineering Branch: (examined interface)
 - may be beneficial
4. "E" Division: (two Traffic Sections)
 - section 1: positive
 - section 2: negative
5. Electronic Security Branch:
 - development of policy and procedures for monitoring in-car video system
 - establishment of suitable repair/service facilities for these systems
 - need of manufacturer representatives in Canada
 - development of purchase description
 - evaluations from other in-car video systems
6. "J" Division: (two Highway Patrol Sections)
 - 1 Highway Patrol # 1:
 - out of service due to transport and technical problems
 - Highway Patrol # 2: - positive, performed as expected
 - Observations: when member is seated in vehicle, with head down, writing a ticket, this in-car system monitors the action around the vehicle. Any movement is easily noticed on the monitor.

Cost:

The cost of VICS tested without a radar is \$7700.00, a programmer is an additional \$425.00 and the modifications of a radar unit to interface with VICS is \$200.00. These prices would be reduced through the bulk buy process. Kustom radar units cost \$1800.00 including the interface capability. Crimtec plan to offer a complete system as a package.

System components

- 1) Miniature colour camera mounted on the inside of the windshield behind the rear-view mirror. The camera provides up to a 160 degree field of view under most lighting conditions. The range of lenses available is 6mm, 8mm, 12mm and 16mm. The 12mm was found most suitable for our requirements.
- 2) Remote control panel similar to the home video recorder and a 5 1/2" black and white monitor mounted under the dash board of the car. The monitor assists in setting up the camera. The control panel turns the unit on and off.
- 3) Full size video recorder and computer encased in a crash resistant sturdy metal cabinet in the trunk. The cabinet is climate controlled with a heat pump providing heat or cooling as required in a range from +30'C to -45'C. The video recorder allows 6 1/2 hours of. continuous taping. This is sufficient for most patrol operations.
- 4) Wireless body microphone, worn by the member, completes the system. Even when the member is out of camera range the body microphone continues to record conversations.
- 5) A Kustom KRIO-SP radar unit was modified to interface with VICS. Thus providing a method to record the patrol and target speeds on the video tape.
- 6) A separate programmer unit is required to change the time, date, etc. This is important because the programmer is retained by someone other than the officer operating the VICS and prevents editing of the video tape.
- 7) VICS is secure in that a "tone" is generated on both audio and video making it impossible to alter the recording without detection.
- 8) Another feature is the tape cannot rewind and accidentally tape over. This feature together with the tone generation provides total integrity to the system thus preserving the evidence.

Leaalties of in-car video

When this evaluation process commenced it was determined through consultation with legal personnel that VICS was not in conflict with R. VS DUARTE. Policy on the use of VICS stipulates the subject being stopped for a violation is to be advised a recording is being made of both audio and video. This up front approach has been well received by the public and defence council. VICS has been used successfully in court and to date there have been no challenges.

Conclusion

The technical and field evaluations of VICS were positive. The concept of interfacing the video system with a traffic radar unit is a particularly valuable asset to investigators and the courts.

Security to police officers on patrol

The RCMP functions with mostly single patrols. By advising a violator/offender a recording is being made both audio and video the chance of problems occurring is greatly reduced. If misfortune does occur then the event will in all probability be recorded. The in-car video system was particularly useful in the investigation of the murder of a police constable in Garrison, Texas on January 23rd. 1991. A routine vehicle check ended up with three people overpowering the officer. Most of the incident was recorded and as a result the three culprits were quickly apprehended.

Reports indicate officers are cognizant of the video system and conduct themselves in a more professional manner when dealing with violators.

Because violators are advised their actions are being recorded they too are less likely to become involved in an unpleasant scene. With both police officers and the public being more courteous a better relationship should result.

When an officer is sitting in a patrol vehicle the video system monitors the events in front of the police vehicle. The officer can easily notice movement by glancing at the monitor and take evasive action if required.

Hazardous Pursuits

During most pursuit situations the police vehicle is following the violator. This presents an excellent opportunity to capture the details of the incident for investigation and court.

Extension to the officer's notebook

Times, dates, speeds, actions, and voice are all recorded. The integrity of the VICS system prevents erasing and tampering of the recorded tape.

Protection for the public and reduction of public complaints

Presently, numerous hours are spent investigating complaints which turn out to be unfounded.

Training material

At present a lot of time is spent in producing training videos. Real life situations are most beneficial.

V.I.P. protection

The use of video systems during escorts could provide valuable information of the event of an incident taking place. It could be used to train members involved in these duties.

Traffic violators and impaired drivers:

The evidence recorded is used to corroborate the member's testimony. The defence counsel have in many cases changed their clients plea to guilty after viewing the video tape. This saves countless hours in court and releases investigators to other cases.

Evidence gathering and scene re-construction

In-car video has been used to retrace the route for a crime scene or the collision scene. It is sometimes possible to video a scene at the time of the incident. Fragile evidence may be captured and be useful in conjunction with still photographs for investigative purposes.

This evaluation indicates that in-car video linked to radar is a valuable asset to the police. There are still some technical areas to be refined but nothing has surfaced to indicate that the RCMP should not continue to use this concept.

Any problems reported during the evaluation have been corrected. The company has been very cooperative in making any changes suggested to improve the product.

There are several similar products that are being considered for evaluation at this time.

Recommendations

- 1) VICS be approved for use by the RCMP and used as a model for future development and improvement.
- 2) Purchase specifications, policy and procedures for use be developed.
- 3) Divisions be encouraged to equip vehicles utilized on traffic law enforcement duties, including detachment vehicles equipped with radar, with VICS.
- 4) All Ford Mustang police vehicles utilize on traffic law enforcement duties be equipped with a VICS as soon as possible.
- 5) Similar in-car video/radar systems be evaluated when available.
- 6) Research continue with a view to expanding the VICS and integrate with computer systems as appropriate technology permits.