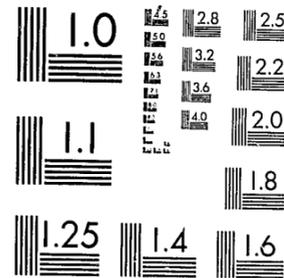


National Criminal Justice Reference Service

ncjrs

This microfiche was produced from documents received for inclusion in the NCJRS data base. Since NCJRS cannot exercise control over the physical condition of the documents submitted, the individual frame quality will vary. The resolution chart on this frame may be used to evaluate the document quality.



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Microfilming procedures used to create this fiche comply with the standards set forth in 41CFR 101-11.504.

Points of view or opinions stated in this document are those of the author(s) and do not represent the official position or policies of the U. S. Department of Justice.

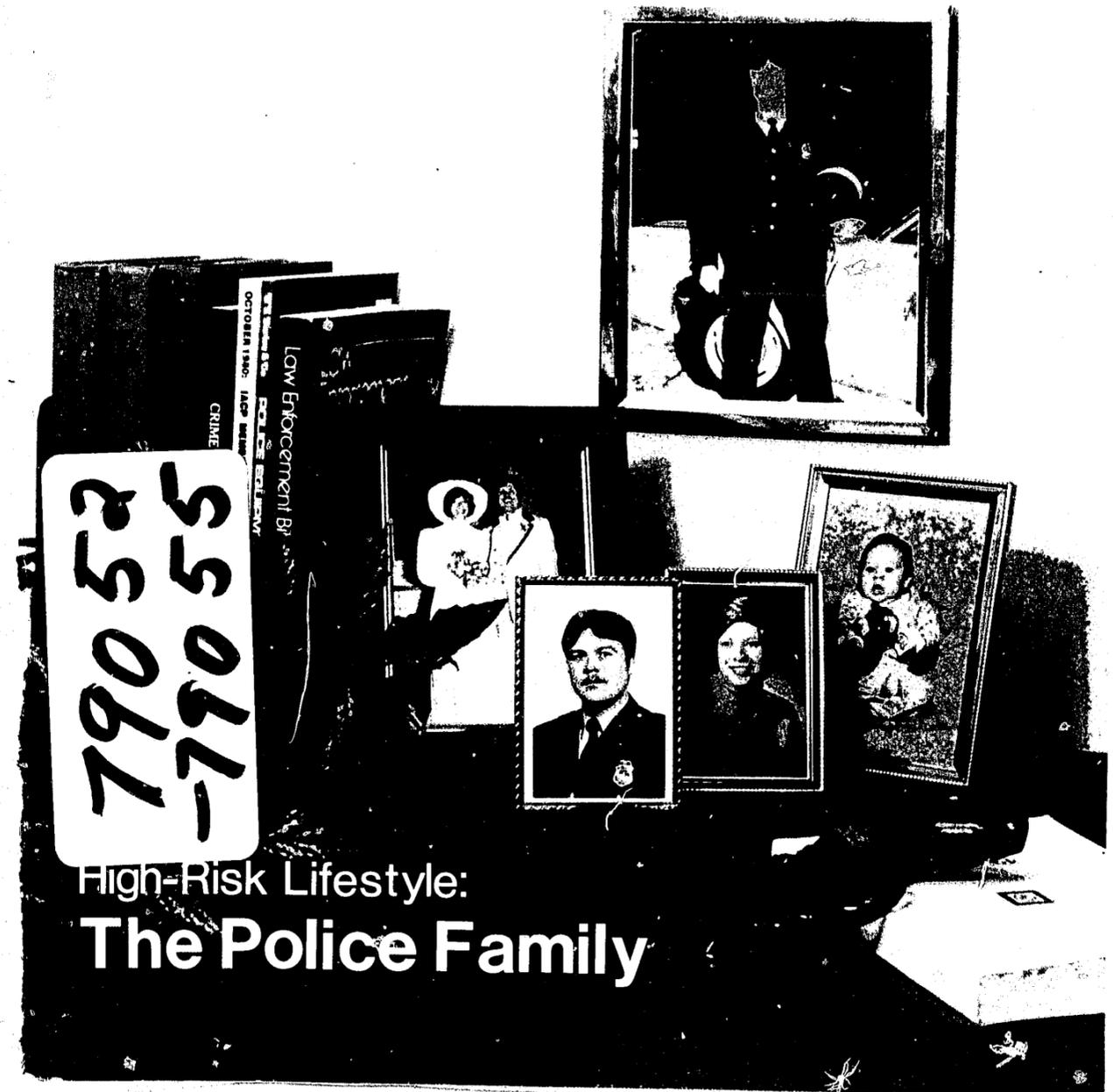
National Institute of Justice
United States Department of Justice
Washington, D. C. 20531

DATE FILMED

11/20/81

FBI LAW ENFORCEMENT BULLETIN

AUGUST 1981



FBI LAW ENFORCEMENT BULLETIN

AUGUST 1981, VOLUME 50, NUMBER 8 U.S. Department of Justice National Institute of Justice

This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated in this document are those of the authors and do not necessarily represent the official position or policies of the National Institute of Justice.

Permission to reproduce this copyrighted material has been granted by Public Domain/US Department of Justice

to the National Criminal Justice Reference Service (NCJRS).

Further reproduction outside of the NCJRS system requires permission of the copyright owner.

Contents

- 9RB
- Identification **2** California's Automated Latent Print System
By Kirby Vickery 79052
 - Personnel **7** High-Risk Lifestyle: The Police Family
By Roger L. Depue 79053
 - Crime Problems **14** Death Scene Checklist
By James C. Beyer, M.D. and William F. Enos, M.D.
 - Firearms **19** Developing An Inservice Firearms Training Program
By Robert F. Phillips and Martin R. Wolinski 79054
 - The Legal Digest **24** Chains, Wheels, and the Single Conspiracy (Part I)
By Jerome O. Campana 79055
 - 32** Wanted By the FBI

The Cover: Trying to cope with a difficult lifestyle poses many problems for the law enforcement officer. See story page 7.



Federal Bureau of Investigation
United States Department of Justice
Washington, D.C. 20535

William H. Webster, Director

The Attorney General has determined that the publication of this periodical is necessary in the transaction of the public business required by law of the Department of Justice. Use of funds for printing this periodical has been approved by the Director of the Office of Management and Budget through December 28, 1983.

Published by the Office of Congressional and Public Affairs,
Roger S. Young
Assistant Director

Editor—Thomas J. Deakin
Assistant Editor—Kathryn E. Sulewski
Art Director—Kevin J. Mulholland
Writer/Editor—Karen McCarron
Production Manager—Jeffery L. Summers



ISSN 0014-5688

USPS 383-310

Identification

79052

California's Automated Latent Print System



By KIRBY VICKERY
Program Manager
Bureau of Forensic Science
Automated Latent Print System
Sacramento, Calif.

EDITOR'S NOTE

This system is the outgrowth of technology actually developed and funded by the FBI in its implementation of automatic fingerprint reader systems and algorithms to match computerized fingerprint characteristics for the FBI's Automated Identification Division System (AIDS).

A latent print identification is one of the finest forms of physical evidence that can be presented in a court of law. Until now, practical limitations of fingerprint classification and searching have minimized the investigative application of latent fingerprints. By harnessing the speed and accuracy of the computer, the Automated Latent Print System (ALPS) now promises to be a valuable investigative tool for law enforcement personnel.

The impact of ALPS was illustrated during the initial months of operation when a brutal rape occurred in a small California city. Latent prints taken from the crime scene were matched against possible suspects, with no results. After several months of unsuccessful investigations, an ALPS search identified the subject as an individual who had been released from prison 2 weeks prior to the perpetration of the crime. The ALPS "hit" led to the arrest, prosecution, and return of this person to a State prison.

Background

In the past, latent prints have been considered practically worthless without known suspects to identify or eliminate. Since the files of the California Department of Justice (DOJ) contain approximately 6 million fingerprint cards, a manual search of a single latent print is nearly impossible. With the advent of ALPS, the department can now identify unknown suspects from latent fingerprints through a technique called a "cold search." At the local level, this can result in the solution of otherwise unsolvable crimes, reduction in investigative time, and often, recovery of stolen property.

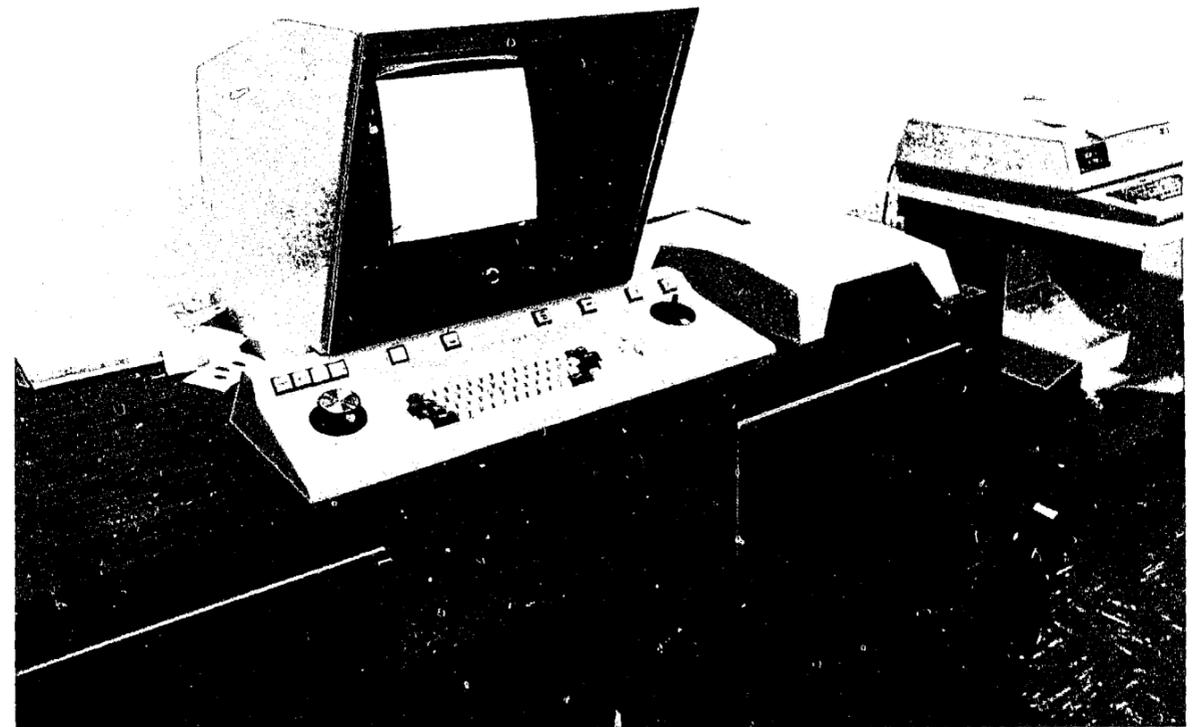
In 1975, a "pilot" automated latent print operation was undertaken with prototype equipment. The success of this pilot program, indicated by nine cold-search identifications, proved the operational theory to be sound. Nine "core" counties were selected for the pilot program on the basis of their prior use of the manual latent program and ability and willingness to develop a list of data base candidates. A 10th core county was added in October 1980.



Read-edit terminal

In June 1979, the department purchased a data bank that has a maximum data base capability of 500,000 10-print sets. Between January and December 1980, 70 cold-search identifications were made. This success was particularly significant since the project, in terms of data base size and system application, was in its infancy. These identifications led to arrests and successful prosecutions in felony cases, including homicide, armed robbery, grand theft, and burglary. In some instances, several case clearances have resulted from a single ALPS hit.

The data base consisted of 65,000 subjects in January 1980, and grew to approximately 116,000 subjects by December 1980. Service is extended to law enforcement agencies in the 10 core counties for all felony cases and statewide for selected crimes which correlate to the data base. It is projected that the data base will ultimately include 500,000 subjects.



Latent encoding terminal

Objective

The objective of the Automated Latent Print System is to provide California law enforcement agencies with a latent print cold-search capability. The sophistication of electronic data processing hardware has only recently reached the point where an electronic mass scan of subject (data base) fingerprints can be made. Therefore, this is a new service provided to law enforcement agencies in California—a service that will impact crime clearance rate and offer a new investigative tool to California law enforcement.

Instituting this system at the State level ensures the ultimate extension of the service to all California law enforcement agencies and provides a statewide repository of offenders. Additionally, because offenders cross jurisdictional lines to perpetrate crimes, individual law enforcement agencies do not have the necessary resources to coordinate a program of this type.

Establishing a statewide data base also enhances the probability of apprehending the "professional criminal."

Data Base Selection and Criteria

The nine core counties selected to participate submitted fingerprints of known offenders in seven major crime areas: Homicide, robbery, rape, assault, burglary, larceny, and motor vehicle theft. In addition, the California DOJ added from its own files, fingerprints of registered sex offenders, known terrorists, forgery rings, prison gang members, and outlaw motorcycle gangs.

Prison gang members were selected for inclusion because of the high potential for serious crimes in institutions and because of the increasing incidence of criminal activity by gang members outside the institutions. Finally, outlaw motorcycle gangs were included because of their frequent involvement in criminal activity. The prints of approximately 20,000 persons released from the California Youth Authority and the California Department of Corrections in 1978 and 1979 have also been entered.

The intent is to ultimately expand the data base to the maximum machine capacity of 500,000 subjects. This figure was derived through extrapolation of data previously gathered concerning the DOJ fingerprint identification file. While the file is comprised of almost 6 million individuals, approximately 50 percent are applicants who are not considered suitable for inclu-

sion in an investigatory file such as ALPS. Of the remaining 3 million subjects, over half are misdemeanants, most of whom are not eligible for entry into the system. Finally, the age of over half of the remaining 1.5 million files indicates that the subjects are no longer criminally active. Based upon these assumptions, it was determined that a file of 500,000 would provide a significantly representative segment of the active criminal population in the State of California. The success or failure of this system will be largely dependent upon the quality of the data base; therefore, we are concurrently developing criteria governing both eligibility and purging procedures.

During the development of criteria for inclusion of prints in the data base, the question arose concerning whether the prints of juveniles could be included in the California file. Legal research determined that prints of juvenile offenders may be entered into the data

"The objective of the Automated Latent Print System is to provide California law enforcement agencies with a latent print cold-search capability."

base if there is an arrest, a criminal identification (CII) number, and a disposition. An adult offender, in contrast, has to have only an arrest record and a CII number. One of the key elements in this decision was that ALPS makes subject identifications—it does not disseminate criminal history information. However, since juveniles commit a significant portion of all felony crimes—including over 50 percent of all burglaries—their inclusion is believed to be essential.

As the system expands, service will be provided to additional counties. This will be accomplished through the "ripple" effect (adding counties immediately adjacent to core counties). Eventually, all counties, representing over 591 agencies, will be provided with ALPS service. System features include the capability for local agencies to request direct entry of specific subjects into the data base. This is particularly important since it allows each local jurisdiction the freedom to identify their active offenders for inclusion.

Program Operation

In initiating this program, it was essential to elicit local agency interest and cooperation. Contacts were made at administrative and working levels to explain the program and gain confidence and support. Training on system usage and application was extensive.

Agencies are now encouraged to submit latent prints from felony cases. To qualify for an ALPS search, a latent print must be of a quality surpassing that required for a manual identification. Procedurally, the agency is required to submit latent prints with at least 12 points of minutiae; however, in exceptional cases, such as homicides and other major cases, latent prints may be accepted with fewer than 12 points.

Prior to submitting the case, agencies are asked to eliminate prints of victims and any others not relevant to the case. This reduces the possibility of excessively large numbers of latent prints being submitted on a specific case, the majority of which may have little relevance. The agency then mails a photograph, not the original, of the latent prints to the DOJ. It is important that the photograph be taken at a one-to-one ratio. This is a critical requirement since any enlargement or reduction in the latent image distorts the relationship of the comparison points.



Use of photographs removes the DOJ from the chain of custody of evidence and negates the necessity for special handling required in processing and returning the evidence. It also allows the photograph to be kept by the DOJ for subsequent searches as significant data base additions occur.

Under current procedures, three priorities have been established for searching latents. First priority is given to cases where the submitting agency, believing the case to be of critical importance, hand delivers the prints. This is generally done for significant cases, such as homicide, or when the agency itself has established a high priority. The number two priority is assigned to crimes against persons; the number three priority is assigned to crimes against property.

When submitting the prints to the DOJ, the agency uses a transmittal form developed specifically for ALPS cases. This form provides information that is important to the analyst in processing the case. Examples of this include physical descriptors, crime information, urgency, and other pertinent factors. After a quick screening for acceptability and priority, minutiae from the fingerprints are coded and entered into the system by latent analysts. In a matter of minutes, the system compares relative positioning of the characteristics on the latent print and other search factors, such as descriptor data, to the data base fingerprints and produces a candidate list in rank order of probable matches.

The actual comparison process of the candidate list involves a very time-consuming comparison by a latent print analyst of the hard copy arrest prints of top candidates on the list with the latent prints. The fingerprints of candidates selected by the computer may be very similar, making this process extremely sensitive and difficult. Also time-consuming is the actual location and retrieval of candidate records. Micrographics retrieval of the data base cards is currently being investigated in order to reduce this problem.

Latent analysts are encouraged to use their professional expertise and experience in terms of using descrip-

“ . . . the Automated Latent Print System is an important technological advance for the law enforcement community.”

tors and the application of search techniques based on the latent prints submitted. The analysts are given some latitude in the number of candidates to be manually compared; however, in crimes against persons, the top 15 candidates are usually checked. The reliability of the search may vary depending upon the quality of a given fingerprint. The importance or seriousness of the offense would also have a bearing upon the length of the candidate list.

A “hit” (identification) results when the latent print and data base prints are successfully matched. A “hit” or “no hit” report is then sent to the submitting law enforcement agency.

An after-action report is sent to agencies approximately 3 months after an identification is made. The letter seeks information concerning the clearance and/or disposition of the case, property recovered, and any other information that will assist in future decisions relative to data base composition and the nature of ALPS service.

The final step in any investigative process, of course, is testimony. Again, local law enforcement agencies are encouraged to provide their own testi-

mony when expertise is available. It is important to recognize that in the use of an Automated Latent Print System, the final identification is always manually made. When local capability is not available, the Department of Justice stands ready to assist local law enforcement agencies with testimony. Testimony relative to ALPS hits has been accepted in California in all cases which have gone to trial to date.

Conclusion

In the 1 year of operation, ALPS has contributed to the solution of over 70 felony cases which, otherwise, would not have been solved. The resulting support and enthusiasm from California law enforcement agencies have been very rewarding. Developing and implementing this program has been a long and arduous task and much remains to be done. The full impact and advantages of this technological innovation will not be tabulated until the much larger data base is developed and has been in operation for a longer period of time. Furthermore, improvements in technology and processes will expand the usefulness of the program. There is, however, little doubt that the Automated Latent Print System is an important technological advance for the law enforcement community. **FBI**

END