

Tactical Surveillance Inc

Bureau Of Technical Services Knight Hawk Investigations Tactical Surveillance Insertion Team

715.726.1400

Scientific Evidence Testimony / Digital & Scene Evidence Processing / Re-Enactment Animation

Forensic Lab
for the
Defense

**Tactical Surveillance
Bureau Of Technical Services
Knight Hawk Investigations**

James Greenwold
P.O. Box 191 Chippewa Falls, WI 54729

715.726.1400

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jlg@tacticalsurveillance.com

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Positions and Job Descriptions

2001 – Present

BTS Crime Lab - Chippewa Falls, WI

Director of Labs.

Computer forensics, Audio/ Video Enhancement, 3D re-enactment Animations, Crime Scene Response, Evidence Protection and Collection, Latent Prints, Document & Handwriting Analysis, Ballistics, Tool Markings, Scientific Case File Analysis.

Design and perform controlled crash recreations

1995 – Present

Tactical Surveillance Insertion Team - Chippewa Falls WI

C.O.O/ Owner.

Contract surveillance services to government agencies, law enforcement, corporations and Technical Surveillance Counter-measures.

Nationwide response. Rapid-Deployment systems designer.

1994 – Present

Bureau Of Technical Services - Chippewa Falls WI

President/ CEO.

System Designer of state-of-the-art surveillance equipment related to the needs of government, law enforcement and corporate investigation.

Inventor and patent holder of battery powered digital video technology

[Tardis AV](#)...Worlds first Audio/Video recorder for covert use.

Over 50 custom quick response kits with equipment for forensic, surveillance and investigation.

Inventor of [Wristcam](#)...First video camera in a wristwatch.

1990 – Present

Knight Hawk Investigations - Chippewa Falls WI

Owner

Experienced interviewer.

Investigations specializing in criminal and civil cases, intellectual property theft. Defense case file analysis for scientific and statement evidence.

2009 - 2016 PAWLI

President - Professional Association Of Wisconsin Licensed Investigators

2005 – Present Wisconsin courts designated expert witness

Digital forensics, Audio / video enhancement and technology, 3D event re-enactment, reconstruction.

Previous

Idea Machine - Conroe TX

1985 – 1989 Founder/ Coordinator

Designed creative innovations in the fields of control electronics, hydraulics, tactical law enforcement equipment, mechanical and electronic design.

- [DynacompTM](#) - 3 stage recoil compensator for semi-auto handgun (60% rdctn)
- Electric over hydraulic automated tool manufacturing station
- Sound suppressor for Mac 10
- Automated Targeting systems for shooting range
- Gatling gun Microphone for long-range audio recording

M/A-Com Systems Net - San Diego, CA

1981 – 1985 Supervisor Mechanical Engineering Lab

Prototype design and fabrication of thermal and fluid flow analysis,

- Design of commercial & military projects for orbital platforms.
- Digital video orbital communications systems. MilStar and Video Cypher projects
- Secret Crypto Security Classification.

University Of California - San Diego, CA

1980 – 1981 Engineer

Designed and constructed electronic laboratory test instruments for the AMES research laboratory water tunnel experiments.

Conic Data Systems - San Diego, CA

1979 -1980 Engineer

Constructed and tested cruise missile guidance circuits.

US Government

1971 -1979 Classified Positions

Secret Crypto Security Classification. Field operations engineering, Defensive Elec-tronic Countermeasures, Surveillance and Communications.

Education

Every Year PAWLI Annual Training Conference

20 + CEUs Annually 3-Day Conferences of Continuing Education for Investigators. Techniques, tactics, legal and resources for investigation.

2011 Micro-expression Technique Training

Interview techniques by reading facial micro-expressions. Taught directly by Dr Paul Ekman, the creator of the science.

Saferstein Criminal Forensics Study

2010	Physical Evidence Handling
2009	Criminalistics
2009	Practical lab work.
2008	Chemistry in Crime

Law Enforcement Institute Center

2004 -2006 One year study in a series of concentrations, 3 to 4 weeks each.

Threat Assessment Investigation,	Fire & Arson Investigation,
Electronic Evidence Specialist,	Explosion & Bomb Scene Investigation,
Crime Scene Investigation,	Evaluating Eyewitness Evidence,
Intro to Biological Agent Detection,	Counter-terrorism Intelligence Gathering
Foundation of Forensics	Faces Composite Picture Technician,
Detection, Traffic Collision	DNA Evidence Investigation,
Investigation,	
Electronic Crime Scene Investigation,	Forensic Service Specialist

John Millner and Associates

1995 Advanced Interview and Interrogation Techniques

Association of Certified Fraud Examiners

1994 Fraud Investigations Techniques

North Houston Community College

1988 The American System Of Criminal Justice

University of California, San Diego

1979 – 1983 Applied Mechanics and Engineering Sciences,
Physics, Economics

US Navy

1971 – 1979 Defensive & Surveillance Countermeasures -
(Counter surveillance and intelligence)
Electronic Engineering - (Military training 2 years)
Business Law / Contracts - (Certificate Classes)

Additional Training

- Many classes with Sirchie for fingerprint analysis including the computer comparison software for the BTS lab.
- Access Data software and training for computer and digital forensics recovery of deleted evidence, analysis of file history and therefore, activity of the owners.
- Advance software for Audio and video forensic work and enhancement capabilities.
- 3D animation software for re-enactments and model building for scene construction and analysis.

PAWLI Annual Conference

Runs over a 3 day period bringing continuing education credits specifically formatted to the Professional Investigator.

As an example, here is the titles of the classes presented in an average 3 years:

2012 Pawli CEU Training

Interviews and Interrogation, CCW Tactics and Laws, CCW 4 Hr Workshop
Courtroom Demeanor and Trial Prep,
Obtaining Discovery w/ Prosecution resistance
Advanced Internet Searching, E-Myth How to Grow Your Business
Website Development, Criminal Defense 101, Working W/Public Defenders
Executive Protection 101, Surveillance Tactics and Equipment, Process
Serving 101
Becoming a CLI

2013 Pawli CEU Training

Death Investigations - Beers, Homicide Invest & Prosecution, Terrorism-
Security Challenge, Death Investigations-Rogalska, Digital Invest For Non-
techs
Latest Spy-ware, Careers in Digital Forensics, CCW Laws and Policies
Importance of a Good Report, Working With Forensic Experts
Forensic Interviewing, Surveillance Tips, Interviewing Basics
Courtroom Procedures, Social Media Investigations

2014 Pawli CEU Training

Operating Auto Intoxicated Investigations, Financial Investigations
Liars and Detection, Eye Witness Investigation, Homicide Investigation Digital
Investigations, Surveillance Strategies, Writing Reports
Executive Protection, Sexual Assault Investigations, Homeland Security Issues

Self and Individual Class Study

Improvised Explosives
Special Forces Demolition
Ground Search Techniques
Handwriting Analysis
Collision Investigation, Reconstruction
Certified Fraud Investigations
Interview and Interrogations Techniques
Perimeter Security and Locksmithing
Drug Testing in Hair
Video Retrieval Best Practices - FBI Standards
Fire and Arson Chemical Analysis
Digital Photo Forensics
Social Media Investigations
Practical Crime Scene Investigations

Patents 6.845.2156

Body-carry-able, digital storage medium, audio/video

recording assembly World's first battery powered digital video recorder

1999 Started design
2001 Completed Design and began manufacturing
2002 Applied for Patent
2007 Received Patent

Presentations

Computer forensics
Audio / video enhancement,
3D event re-enactment,
Trace evidence collection and protection.
Evidence collection and protection,
Surveillance tactics and equipment.

Published Papers

Using Tracking Technology - Surveillance Tracking Through History
The Power of 3D Animation in The Courts
Securing the Crime Scene, Protecting and Documenting the Evidence

Theoretical Physics:

White Paper and Animation on Particle Physics and Big Bang alternatives.
Particle Entanglement, Universal Expansion, Dark Matter,
Parallel Dimensional subsets

UCSD Admission Paper

Aerodynamic Lifting Body using Circular Airfoil & Gyro Inertial Navigation.

Organizations

President - Professional Association Of Wisconsin Licensed Investigators
Since 2009 re-elected to 2016

National Association of Investigative Specialists
Since 2002

Mensa International & American Mensa (160+)
Since 1979

Past Affiliations

International Practical Shooters Confederation

Pistol 3.5 seconds: Barretta 92SBC
Targets 5 - 8" steel @ 25 yds from surrender position
Rifle 5 Shot 3" group: Bolt-action 30-06 8x scope 500 yds

PADI Divemaster 1989 - 1995


Sports Car Club Of America 1972 - 1988

1987 - Evasive Driving Techniques - Texas State Guard
1984 - Cross Country Gumball Rally. Boston to San Diego in 36 hours
1978 - Riverside International Raceway - SCCA Regional
1972 - 1985 Weekly SOLO Regional Racing many venues

Kung Fu Northern Shaolin Styles Praying Mantis -White Crane

Rock Climbing Difficulty rating up to 5.10

Government Training (Unclassified)



CERTIFICATE OF APPOINTMENT

To all who shall see these presents, greeting:

Know Ye, that by authority vested in me and reposing special trust and confidence in the patriotism, valor, fidelity and abilities of

JAMES L. GREENWOLD

I do hereby appoint you to the rate of

AVIATION ELECTRONICS TECHNICIAN THIRD CLASS

in the

UNITED STATES NAVY

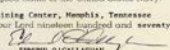
to rank as such from the 3rd day of MAY, nineteen hundred and seventy-two

TO THE APPOINTEE


Your appointment as a petty officer in the United States Navy makes you heir to a long and proud tradition of Naval leadership. By accepting this appointment, you are charged with demonstrating these standards of performance, moral courage, and dedication to the Navy and the Nation which may serve as an example to your fellow Navy men and women.

You desire to excel and to guide others must be boundless. Your appointment must be a model for others and your performance must be a continual reflection of your sincerity, devotion to duty, and moral responsibility. By exhibiting unflinching trust and obedience toward superiors, cooperation and loyalty to your peers, and understanding and strength to your subordinates, you will contribute greatly to the effectiveness and good name of the United States Navy.

Given under my hand at Naval Air Technical Training Center, Memphis, Tennessee this 3rd day of MAY in the year of our Lord nineteen hundred and seventy-two


JAMES L. GREENWOLD
 CAPTAIN, USN
 COMMANDING OFFICER

NAVPERS 1336/10 (4-63) (Replaces NAVPERS 670)



NAVAL AIR TECHNICAL TRAINING CENTER
 NAVAL AIR STATION MEMPHIS
 MEMPHIS, TENNESSEE 38054


IN REPLY, REFER TO:
 Code 124V
 3 day 1972

From: Commanding Officer, Naval Air Technical Training Center,
 Naval Air Station Memphis (43), Millington, Tennessee 38054
 To: ATJ J. GREENWOLD, USN, 399402121
 Subj: Letter of Recognition

1. You are hereby congratulated for superior scholastic achievement by completing an intensive twenty-week course in the Avionics Technician School, Class A, in only fourteen weeks.

2. In completing this accelerated course of instruction, you demonstrated your superior ability, furthered your own education by hard work and conscientious effort and did so at great savings in manhours and training time. Your efforts have helped this school to provide urgently needed equipment with the necessary skills and knowledge to maintain operational avionics equipment. This achievement reflects great credit upon yourself and the Navy and Marine Corps team.

3. A copy of this letter will be made a part of your official record.


JAMES L. GREENWOLD
 CAPTAIN, USN
 COMMANDING OFFICER

Copy to:
 ONSAFS
 Service Record

NAVPERS 1336/10 (4-63) (Replaces NAVPERS 670)

Department of the Navy
Bureau of Naval Personnel

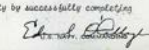
Service Schools

This certifies that

J. GREENWOLD
 ATJ J. GREENWOLD
 has satisfactorily completed the prescribed course of study at the
 Naval Air Technical Training Center, Millington, Tennessee
 Avionics Technician School, Class A

this FIFTH day of MAY, 1972

This student has demonstrated superior ability by successfully completing a 20 week course of instruction in 14 weeks.


JAMES L. GREENWOLD
 CAPTAIN, USN
 COMMANDING OFFICER

NAVPERS 1336/10 (4-63) (Replaces NAVPERS 670)

Fighter Squadron One Two Four

FLEET READINESS
AVIATION MAINTENANCE PERSONNEL
TRAINING DEPARTMENT

This is to certify that

J. GREENWOLD
 has satisfactorily completed a course of instruction in the
 Avionics Technician School, Class A, in only fourteen weeks.


JAMES L. GREENWOLD
 CAPTAIN, USN
 COMMANDING OFFICER

NAVPERS 1336/10 (4-63) (Replaces NAVPERS 670)

Naval Air Technical Training Command
Naval Air Maintenance Training Group

This is to certify that

J. GREENWOLD
 has satisfactorily completed a course of instruction in the
 Avionics Technician School, Class A, in only fourteen weeks.


JAMES L. GREENWOLD
 CAPTAIN, USN
 COMMANDING OFFICER

NAVPERS 1336/10 (4-63) (Replaces NAVPERS 670)

FITRON ONE TWO FOUR

PAS
Qualified

Certificate of Designation

ATJ J. GREENWOLD
 Qualified as **COMNAV/TECHNICAL MAINTENANCE TECHNICIAN**
 Professionalism Pays Off

This student has demonstrated superior ability by successfully completing a 20 week course of instruction in 14 weeks.


JAMES L. GREENWOLD
 CAPTAIN, USN
 COMMANDING OFFICER

NAVPERS 1336/10 (4-63) (Replaces NAVPERS 670)

Naval Air Maintenance Training Group

This is to certify that

J. GREENWOLD
 has satisfactorily completed a course of instruction in the
 Avionics Technician School, Class A, in only fourteen weeks.


JAMES L. GREENWOLD
 CAPTAIN, USN
 COMMANDING OFFICER


NAVPERS 1336/10 (4-63) (Replaces NAVPERS 670)

Honorable Discharge

from the Armed Forces of the United States of America

This is to certify that

J. GREENWOLD
 has satisfactorily completed a course of instruction in the
 Avionics Technician School, Class A, in only fourteen weeks.


JAMES L. GREENWOLD
 CAPTAIN, USN
 COMMANDING OFFICER

NAVPERS 1336/10 (4-63) (Replaces NAVPERS 670)

Department of the Navy
Bureau of Naval Personnel

Service Schools

This certifies that

J. GREENWOLD
 has satisfactorily completed the prescribed course of study at the
 Naval Air Technical Training Center, Millington, Tennessee
 Avionics Technician School, Class A

this FIFTH day of MAY, 1972

This student has demonstrated superior ability by successfully completing a 20 week course of instruction in 14 weeks.


JAMES L. GREENWOLD
 CAPTAIN, USN
 COMMANDING OFFICER

NAVPERS 1336/10 (4-63) (Replaces NAVPERS 670)



CERTIFICATE OF APPOINTMENT

To all who shall see these presents, greeting:

Know Ye, that by authority vested in me and reposing special trust and confidence in the patriotism, valor, fidelity and abilities of

JAMES L. GREENWOLD

I do hereby appoint you to the rate of

AVIATION ELECTRONICS TECHNICIAN FIRST CLASS

in the

UNITED STATES NAVY

to rank as such from the 14th day of November, nineteen hundred and seventy-eight

TO THE APPOINTEE

Your appointment carries with it the obligation that you exercise increased authority and willingly accept greater responsibility. Occupying now a position of greater authority, you must strive with a renewed dedication toward the valued ideal of service with honor.

You are charged with demonstrating a proper example of performance, moral courage, and dedication to the Navy and the Nation. Your every action must be governed by a strong sense of personal moral responsibility in order that, by example and leadership, subordinates will contribute their utmost to the effectiveness and efficiency of the United States Navy.

Given under my hand at Fighter Squadron ONE TWO FOUR, NAS Memphis, CA, this 14th day of November in the year of our Lord nineteen hundred and seventy-eight.


JAMES L. GREENWOLD
 CAPTAIN, USN
 COMMANDING OFFICER

NAVPERS 1336/10 (4-63) (Replaces NAVPERS 670)



CERTIFICATE OF APPOINTMENT

To all who shall see these presents, greeting:

Know Ye, that by authority vested in me and reposing special trust and confidence in the patriotism, valor, fidelity and abilities of

JAMES L. GREENWOLD

I do hereby appoint you to the rate of

AVIATION ELECTRONICS TECHNICIAN SECOND CLASS PETTY OFFICER

in the

UNITED STATES NAVY

to rank as such from the 3rd day of MAY, nineteen hundred and seventy-three

TO THE APPOINTEE

Your appointment carries with it the obligation that you exercise increased authority and willingly accept greater responsibility. Occupying now a position of greater authority, you must strive with a renewed dedication toward the valued ideal of service with honor.

You are charged with demonstrating a proper example of performance, moral courage, and dedication to the Navy and the Nation. Your every action must be governed by a strong sense of personal moral responsibility in order that, by example and leadership, subordinates will contribute their utmost to the effectiveness and efficiency of the United States Navy.

Given under my hand at Fighter Squadron TWO, Naval Air Station Memphis, CA, this 3rd day of MAY in the year of our Lord nineteen hundred and seventy-three.


JAMES L. GREENWOLD
 CAPTAIN, USN
 COMMANDING OFFICER

NAVPERS 1336/10 (4-63) (Replaces NAVPERS 670)

Naval Air Maintenance Training Group

This is to certify that

J. GREENWOLD
 has satisfactorily completed a course of instruction in the
 Avionics Technician School, Class A, in only fourteen weeks.


JAMES L. GREENWOLD
 CAPTAIN, USN
 COMMANDING OFFICER

NAVPERS 1336/10 (4-63) (Replaces NAVPERS 670)

Naval Air Maintenance Training Group

This is to certify that

J. GREENWOLD
 has satisfactorily completed a course of instruction in the
 Avionics Technician School, Class A, in only fourteen weeks.


JAMES L. GREENWOLD
 CAPTAIN, USN
 COMMANDING OFFICER

NAVPERS 1336/10 (4-63) (Replaces NAVPERS 670)

Naval Air Maintenance Training Group

This is to certify that

J. GREENWOLD
 has satisfactorily completed a course of instruction in the
 Avionics Technician School, Class A, in only fourteen weeks.


JAMES L. GREENWOLD
 CAPTAIN, USN
 COMMANDING OFFICER

NAVPERS 1336/10 (4-63) (Replaces NAVPERS 670)



CERTIFICATE OF APPOINTMENT

To all who shall see these presents, greeting:

Know Ye, that by authority vested in me and reposing special trust and confidence in the patriotism, valor, fidelity and abilities of

JAMES L. GREENWOLD

I do hereby appoint you to the rate of

AVIATION ELECTRONICS TECHNICIAN FIRST CLASS

in the

UNITED STATES NAVY

to rank as such from the 14th day of November, nineteen hundred and seventy-eight

TO THE APPOINTEE

Your appointment carries with it the obligation that you exercise increased authority and willingly accept greater responsibility. Occupying now a position of greater authority, you must strive with a renewed dedication toward the valued ideal of service with honor.

You are charged with demonstrating a proper example of performance, moral courage, and dedication to the Navy and the Nation. Your every action must be governed by a strong sense of personal moral responsibility in order that, by example and leadership, subordinates will contribute their utmost to the effectiveness and efficiency of the United States Navy.

Given under my hand at Fighter Squadron ONE TWO FOUR, NAS Memphis, CA, this 14th day of November in the year of our Lord nineteen hundred and seventy-eight.


JAMES L. GREENWOLD
 CAPTAIN, USN
 COMMANDING OFFICER

NAVPERS 1336/10 (4-63) (Replaces NAVPERS 670)

Department of the Navy
Chief of Naval Technical Training


Service Schools

This certifies that

J. GREENWOLD
 has satisfactorily completed the prescribed course of study at the
 Naval Air Technical Training Center, Millington, Tennessee
 Avionics Technician School, Class A

this ELEVENTH day of AUGUST, 1974

This student has demonstrated superior ability by successfully completing a 20 week course of instruction in 14 weeks.


JAMES L. GREENWOLD
 CAPTAIN, USN
 COMMANDING OFFICER


NAVPERS 1336/10 (4-63) (Replaces NAVPERS 670)

Honorable Discharge

from the Armed Forces of the United States of America

This is to certify that

J. GREENWOLD
 has satisfactorily completed a course of instruction in the
 Avionics Technician School, Class A, in only fourteen weeks.


JAMES L. GREENWOLD
 CAPTAIN, USN
 COMMANDING OFFICER

NAVPERS 1336/10 (4-63) (Replaces NAVPERS 670)

The Definition of "Investigation" Has Evolved

What once was a trip to the public library, where your favorite uncomfortable chair was waiting for you. Maybe a day of form filling at the courthouse. Most information was usually available in only a few locations.

Now, day-to-day exploits are documented in text, audio and video, for friends and the rest of the world. Search engines comb the planet for key-word information. The result is looking for a needle in a needle stack.

Review

Case File Analysis is the process of surveying discovery for technical and scientific evidence. And evaluating inconsistencies for significance.

Verify

Initial case file finds questions, making a shopping list of information we don't have:

Background reports, Phone bills, Statements, Police reports.

We need to check everything.

- The video from the parking lot that may show a different story.
- The body-wire audio and the transcript may not agree.
- A phone bill that says she was in Las Vegas, the odometer says something else.
- His phone data puts him there at the time. Earlier data puts him 100 miles away.

Mr. Greenwold is the owner and designer of all operations of Tactical Surveillance and has the extensive background to support all.

This document is to introduce the basic foundation for this experience for which every year considerable training and resources are added.

The topics of the training and experience, crosses over among available services. This document tries to organize it is a way that would sufficiently represent this broad knowledge base.

Develop

- Going back to the scene,
- A threat of violation requires protection.
- Prove that it is real before it gets worse.
- Information is getting out. Find the leak and plug it. Then work on what is out.
- Find witnesses.
- Document activity.
- Fill in the holes.
- Build time line.

Implement

- A list of suggested question for cross or direct that are designed to bring out the evidential failing found.
- Find the expert witness that matches the topic.
- Create presentations in audio/video and slides.
- Supporting 3D animation to show the incident.

Knight Hawk Investigation

This division is licensed with the State of Wisconsin as a Professional Investigator agency since 1990.

Bureau Of Technical Services

This is the scientific division. All scientific evidence obtained during an investigation is subject to analysis. The gathering of this evidence from the scene and or submitted by other means is processed in the lab for all aspects of case interest. The report of this analysis is submitted to the client and / or the client's attorney to be used as needed.

Tactical Surveillance Insertion Team

TSIT is the tactical team responsible for rapid dispatch to field locations where technical surveillance is incorporated. The team is trained to work both sides of the equation. The installation of surveillance equipment to enhance security or to sweep a location to find equipment installed under unauthorized conditions.

Government trained and practiced since 1972

Analyze

- Two way traffic between develop and analyze.
- Information on camera file numbering system.
- Re-interview witness.
- Video has problems.
- Body-wire audio covered by background noise
- Pictures are on a flash card but others deleted. Cell Phone Tower Tracking Data
- Subjects show deception during the interviews.
- Information in the course of action is chosen.

We are your support team until the case is closed.

Luckily we have all of it in house.

**Knight Hawk Investigations
A More Comprehensive Definition**

Contents



Professional Investigation

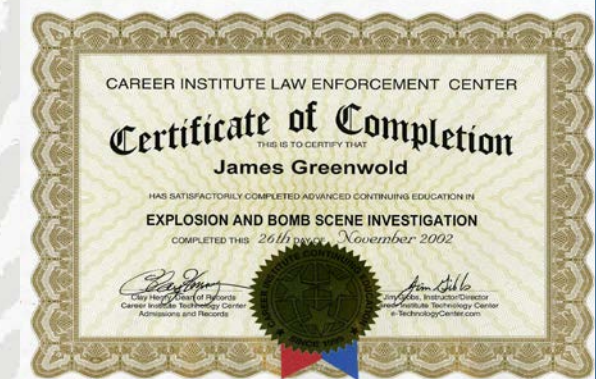
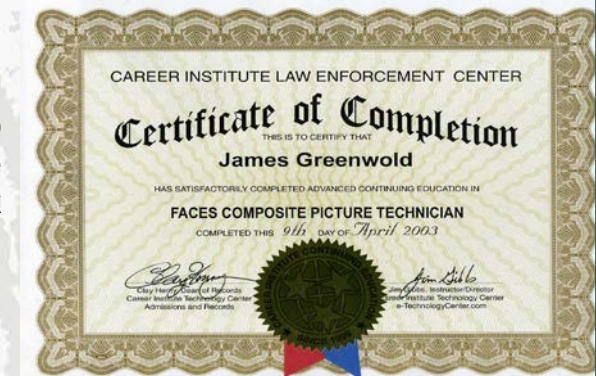
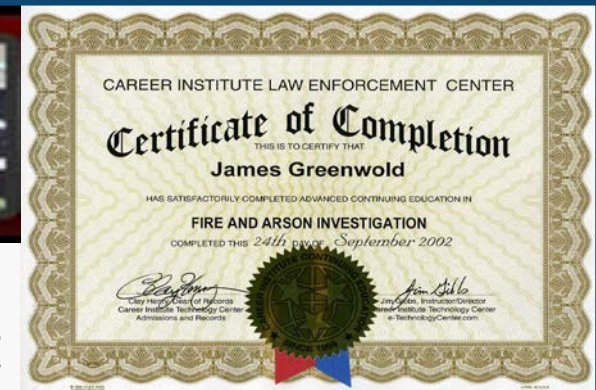
Investigation is not the profession, it is a process. No matter what type of case is involved, investigation is a tool that is universal. The difference is in the subject. Whether civil, criminal, fire, electronic, fraud or any other type of inquiry; study is required to thoroughly understanding the topic.

If you know everything about how to embezzle from the employer, an expert on all the possible ways that it could have been done, then you know what evidence would have to have been left behind. So that is the first place to look. Finding the expected confirms the theory. If that evidence does not exist in that location, then you look at an alternative way it could have happened.

Looking for evidence is the process of investigation, but if you don't know ahead what you are looking for, you will not be successful.

Knowing what to look for and where, is experience. Gathering the evidence requires proficiency in the resources. Understanding the significance of what you find, is the science. Putting these pieces together is success.

Click to expand books



Contents



Statement Analysis

Statements are gathered from witnesses, policy makers and case primaries. And **even if every one is telling their truth, the stories will still be different**. The difference comes from what a person is habited to notice: how well they remember details and what activities keeps their attention. In addition, each may have a personal reason for leaving something out or changing a detail. Why would they remember it like that? Why did they use those words? If interpreted differently, would their recount fit the known?

Statements come to discovery in different forms:

- Direct interviews,
- Video or audio interviews,
- Written statements by the witness,
- Investigators written reports.



Analysis of statements require using every sense to see reactions, and listen to the way things are expressed and discover possible deception. It is not that any one element would mean the whole statement is suspect, it just calls for further scrutiny in the comparison with other sources.



Gleaning information and context from statements, whether recorded or written, is a practiced expertise. Following through with applying the data to a format that allows the logical progression through the event, finding holes and discrepancies that need to be sorted to gain the facts of the

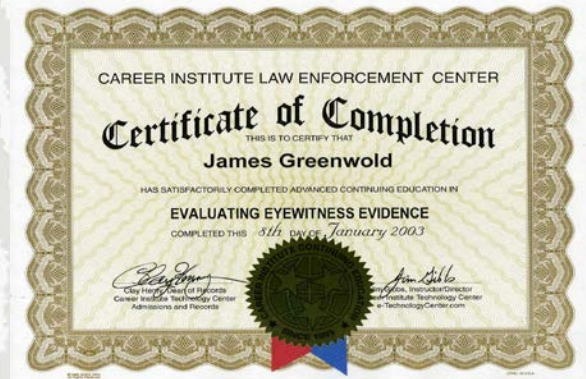
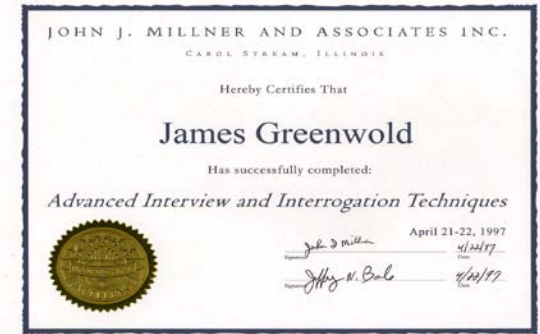
The ability to access **incident** software that can identify additional witnesses with more information on the incident. Putting a name to the unknown witness from only a witness' description.



All evidence has one thing in common. It happened at a particular time. The time line has been the best tool to put the pieces together. Everything takes time and creates a reaction from the involved....a motivation.

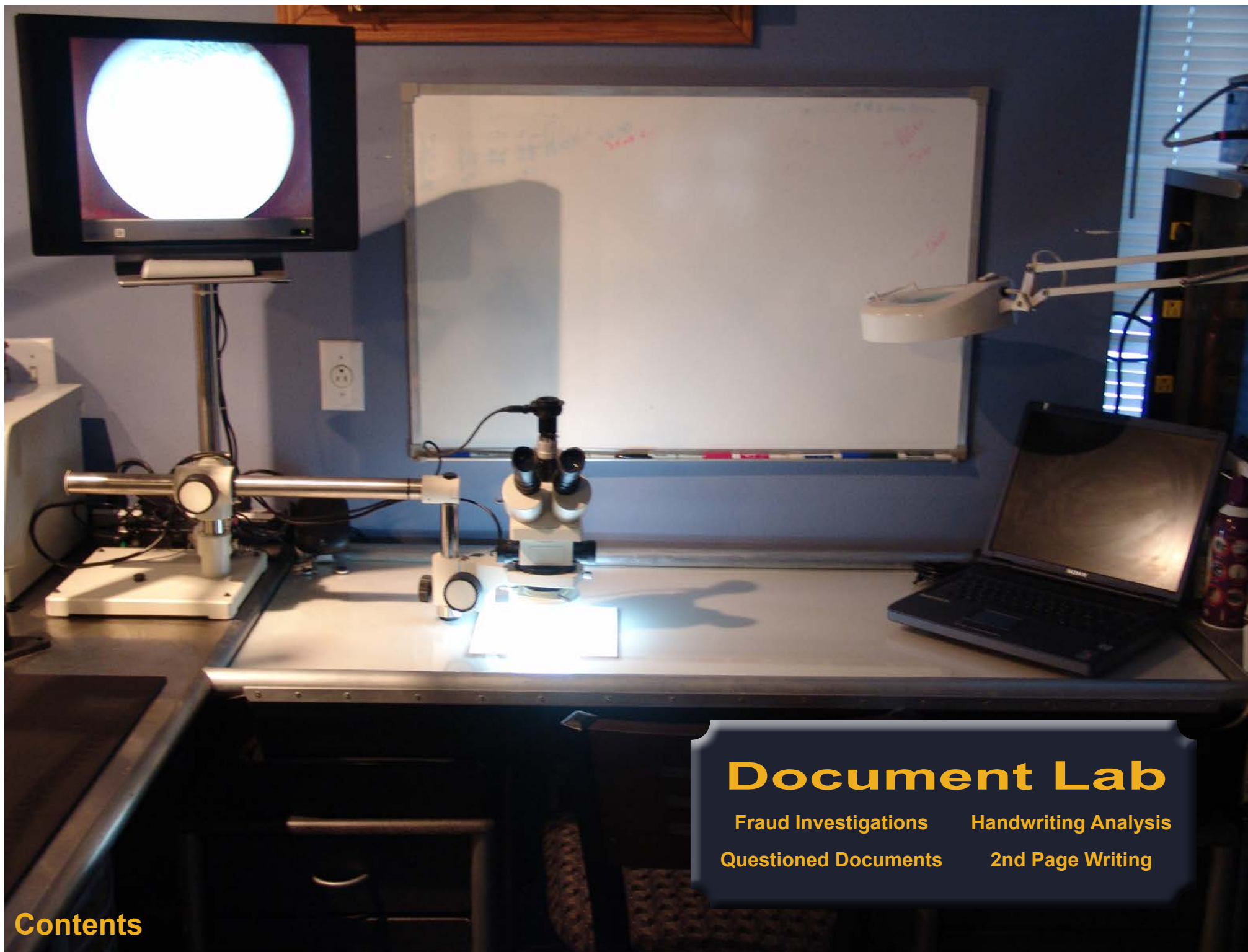
The event that finally makes a person do the thing they had been only thinking about.

That is statement analysis.



Click to expand
contents of texts
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Document Lab

Fraud Investigations Handwriting Analysis
Questioned Documents 2nd Page Writing

Contents

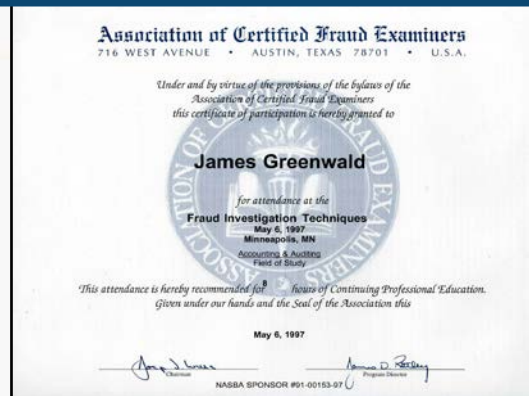
Fraud Investigations

Fraud: Deceit, trickery, sharp practice, or breach of confidence, perpetrated for profit or to gain some unfair or dishonest advantage.

The opportunity for an act of fraud is when there is a relationship, usually a business relationship, developed between the perpetrator and the victim, either in personal contact or through documents.

An employee with access to an employers money, a care giver with a client, an investor with the trader. But with the advent of access to personal information on-line, identity theft is by far the greatest threat.

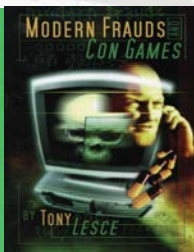
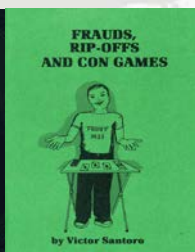
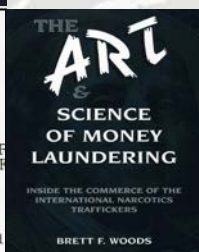
As the official definition above tells us, there is deceit and trickery involved. The forging of documents, the undisclosed or deceptive small print on the contract, the altered contracts, theft of checks, etc.



Since this crime is based on documents and their paths, the understanding of the way documents are normally handled is important. As mentioned before if you know every way that the theft can be done, then you just have to go look at where the evidence should be.

If forged checks: then how have all the other checks been handled? How was it received, where was it deposited, how was it deposited, is the signature correct?

If in the work place: Who has access to the money system, how much is missing, who is in charge of billing, invoices, receipts, books? Are all invoices from valid vendors? Knowing the system!



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There are two ways that a case like this is resolved:

1. If the crime is opportune, then there will be holes in the chain. Missing documents that show the lack of access by the perpetrator.
2. If the system is set up by an expert in the system. Then we are looking for forged or faked documents. Everything is there and in its place but it just doesn't add up. Documents are to be questioned.

Questioned Documents

The investigation has uncovered documents that are suspect. Maybe the signature looks questionable or even too good. Maybe the vendor is a company that no one has heard of. Maybe the checks could have been altered.

Lab tests on these documents can prove the authenticity of all the aspects in question. Handwriting, paper, watermarks comparison. Reflectometry on the ink used. An analysis on the printers available to the suspect pool compared to the document. This is where investigation and science work together.

Creating the Portrait

With

Graphic Insight

HOW TO ANALYSE HANDWRITING
The Graphic Insight way

By
Sandra Fisher

A handwriting analysis study program

The Mark of Genius

Signs of Genius and Giftedness in Handwriting

By
Sandra Fisher

How to understand personality
with

Graphic Insight

A Graphic Insight Book

Graphic Insight

present

The Hidden Meaning of Handwriting

By
Sandra Fisher

How to understand personality
with

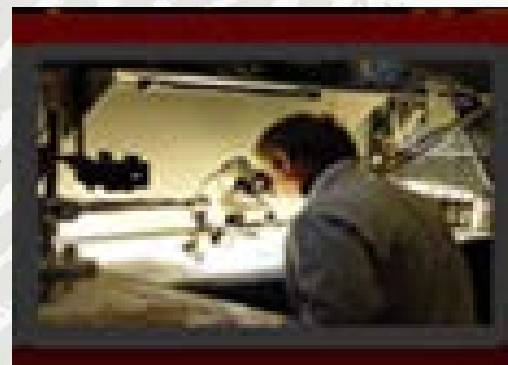
Graphic Insight

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Sometimes when the document is hand written, it is possible to get an emotional and mental profile.

Not really admissible evidence but useful when looking for the perpetrator.

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Trace Lab

Case File Analysis

Fiber/Hair Comparison

Ballistics

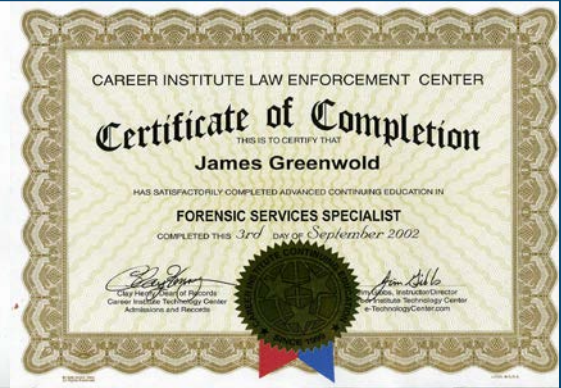
Trace Evidence

Drug Testing

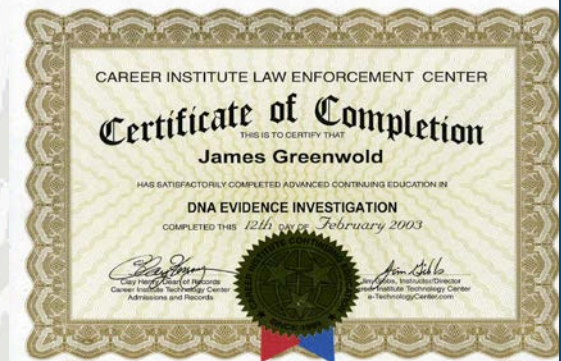
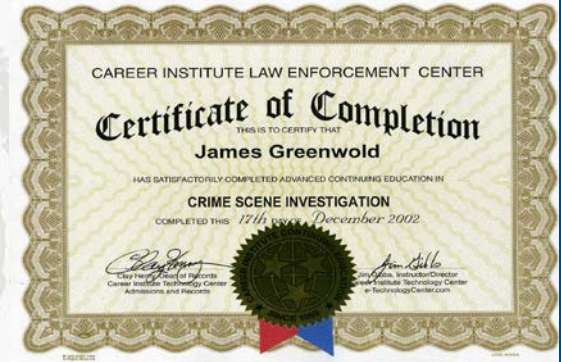
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Scientific Case File Analysis

Expertise in the exact sciences are necessary to study a case file. After finding all the points of evidence offered by outside sources, testing their validity, then creating a "Peer Review" of the previous work accomplished. From this review, it possibly offers points of study as to the best practices recommended and the possible variations in the results. These variations might expose a defense from guilty to not guilty. The resulting report would include suggested cross and direct lines of questioning to bring out these possible discrepancies.



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Trace Evidence

The processing and examination of evidence gathered at the scene, will, of course, use all of the expertise found in the above references. Additional lab work on the evidence may also be needed to offer a peer review to some of the work done by the state crime lab, or to perform the tests not previously completed.

Processing hair or using tested field tabs for drug testing, analyzing bullet trajectory, looking for similarities in fiber profiles, all requires the equipment and expertise to accomplish the tasks successfully.



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Audio / Video Lab

Audio / Video / Graphic Enhancement

Incident Reconstruction 3D Animation

Statement Analysis

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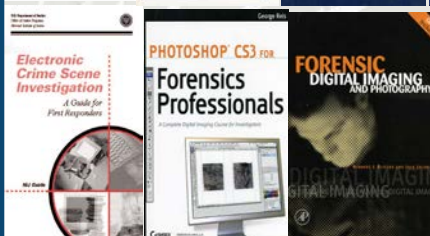
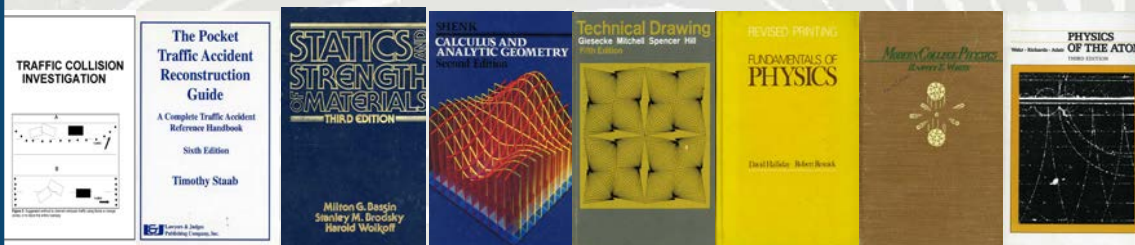
Audio / Video Enhancement

Body wire, interview and phone recordings carry important information. However most are not recorded with the best quality. Bringing this to the court becomes frustrating unless the **process of enhancement** brings out the evidence. Video security recordings are notorious for bad quality. Most systems are installed by sales people and not by trained technicians. The ineffective design of a security system is the chief reason for intelligence failures. Although there is no way to completely compensate, most times **enhancement can make the evidence more useful**. **Highlighting and enlarging on important parts of the video**. **Separating the conversation from the traffic noise**. Discovering the location and P.O.V. of the camera that took the picture.

Incident Reconstruction

The first step in reconstruction is learning how and when to use the basic formulas supplied in the text books. This allows the **technician** to measure the scene and create the most probable scenario working backwards in time. But if you know more than the formulas in the book, and understand the physics, then the formulas can be tailored to the scene for a much greater accuracy.

Expertise in the physics and math are needed to reconstruct the incident using known parameters gathered from the scene. This is the second step of the **engineer**. Analyzing statements, creating a time line, with key points designated by information gleaned from discovery. **Able to understand why we have the results, not just plugging numbers into formulas**. We have even **crashed cars** to prove the results found in the **animation** analysis.



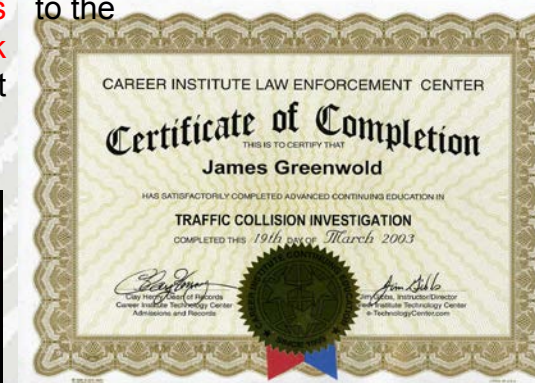
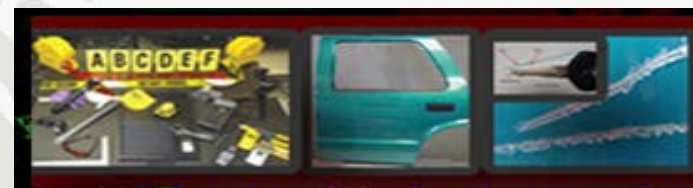
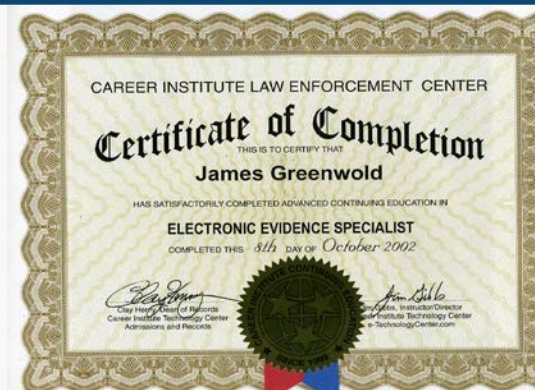
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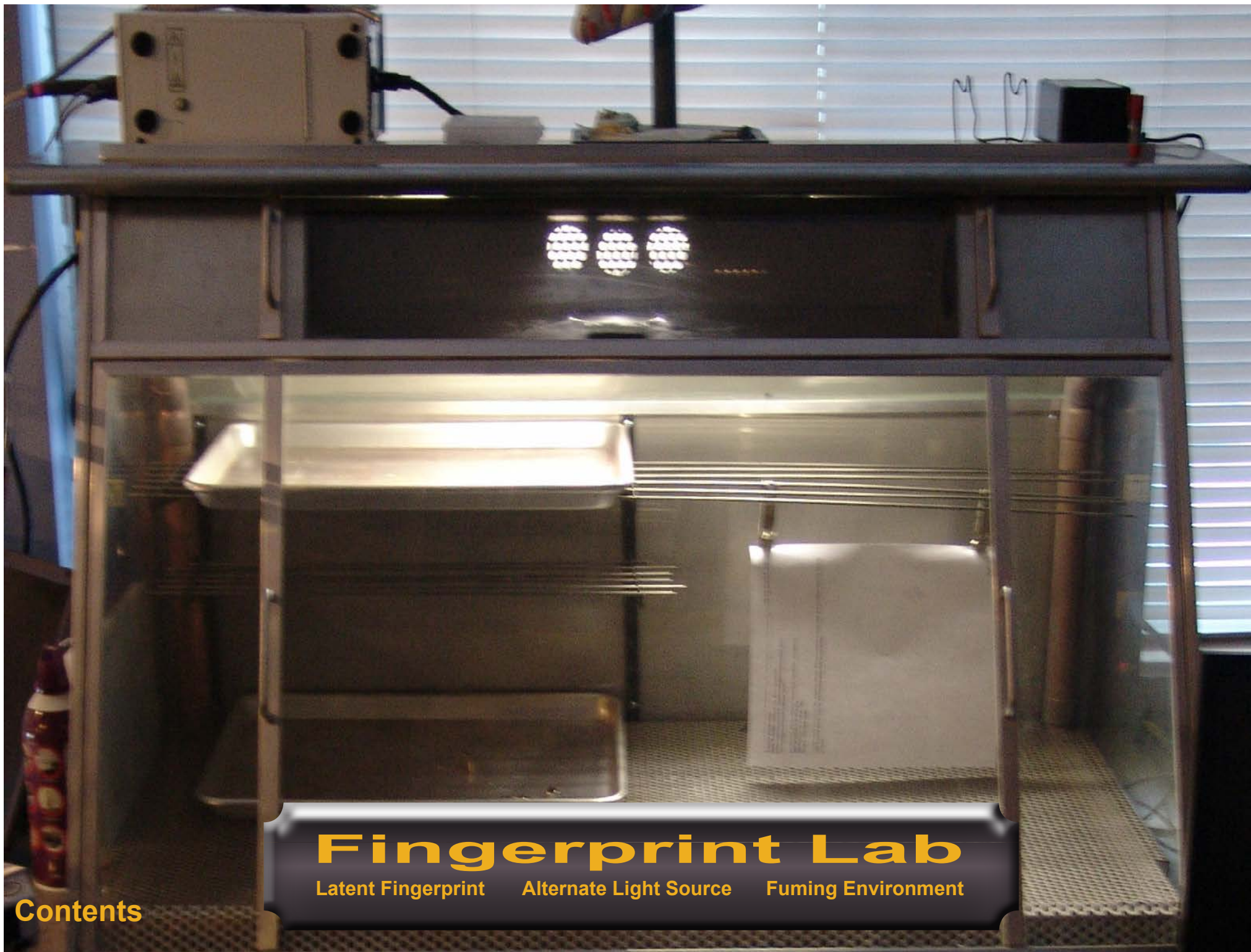


Court Presentations

When all the evidence has been **analyzed and the test-** to the

ing and reconstruction is done, then there has to be a **clear and concise way to present the result to the court**. Old school was boring and time consuming with drawings on the board, or slides on the screen. It also required too much imagination. Far better is to show the event in real time. **Animation is the way to explain it to everyone**. "Show and tell" is the key. **Using mock ups and physical exhibits**. Bringing the lab to the court room is what makes an impact, allows the court to see and touch. **Contents**





Fingerprint Lab

Latent Fingerprint Alternate Light Source Fuming Environment

Contents

Fingerprint Processing and Comparison

You have watched TV programs with the science geek running a computer program that compares a latent print with AFIS, the FBI database. Then the match is found and it displays the 6 points of minutia which is then declared the match.

In real life the latent print being match is rarely as pristine as it shows on TV. Usually working with mostly partials or smudges, once in a while you do get something clean and full. That makes the day of any CSI.

Then the minutia count. For a long time the number of points were up to the policy of the lab doing the work. The problem is that many unrelated prints have points in common. Even if they are not from that person. And there may very well

be points on the computer screen that are not really minutia points, they may be flaws in the lifting or scanning technique.

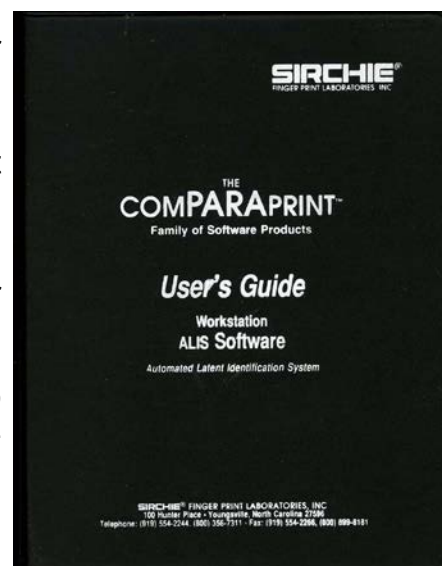
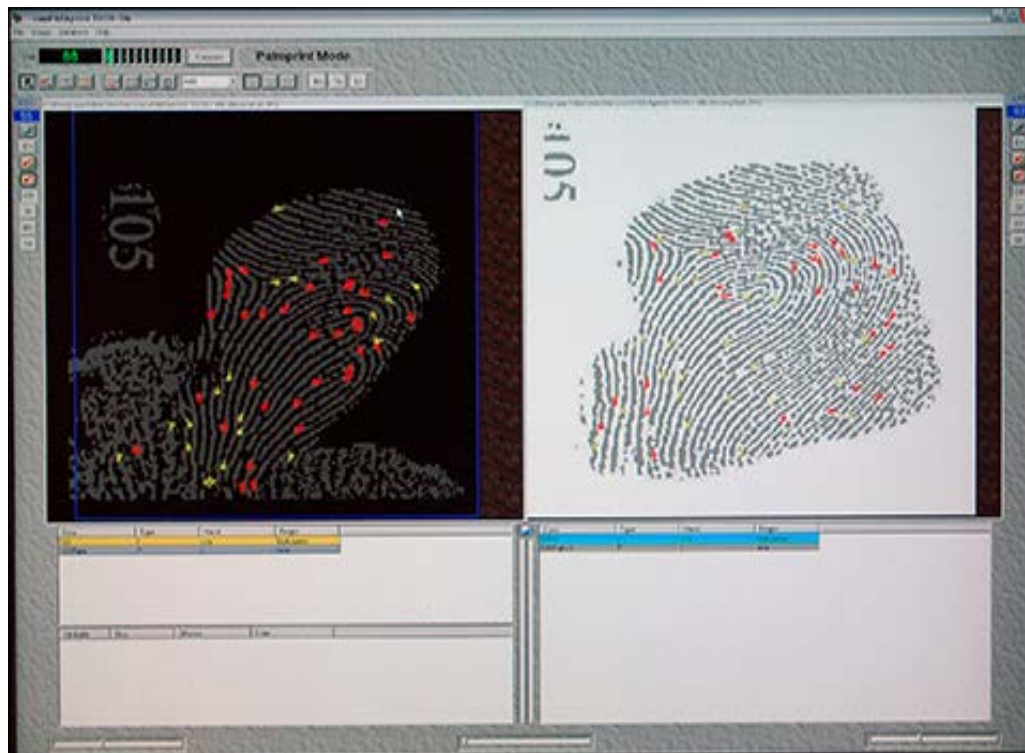
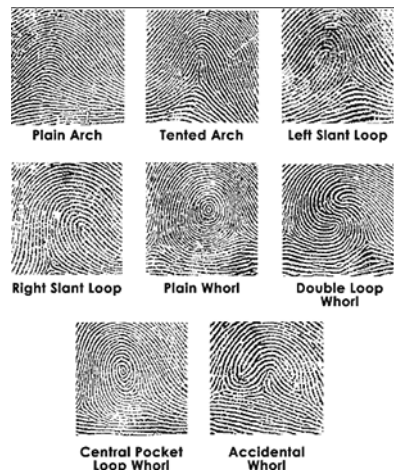
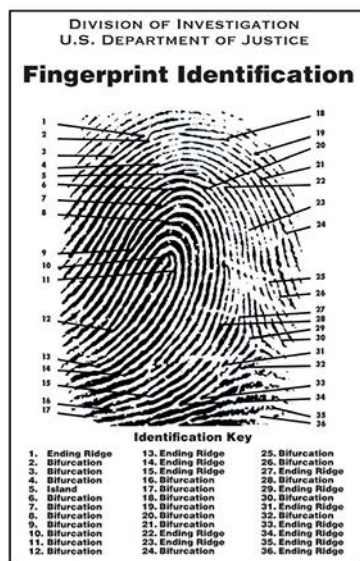
The FBI finally declared that the 6 - 8 points is just not good enough, and to be

certain, the comparison has to reveal at least 10 or more. But that is not the end. The computer making the comparison only gives a possible match, the tech has to actually examine the print and make sure that all the points in common appear in the right place.

Knowing this gives us something to look for when we are analyzing discovery or processing prints for a client.

Not being law enforcement, we don't have access to AFIS, but we have developed ways of creating databases specific to the case at hand. And we train with Sirchie a couple times a month to keep up on the latest technology and procedures

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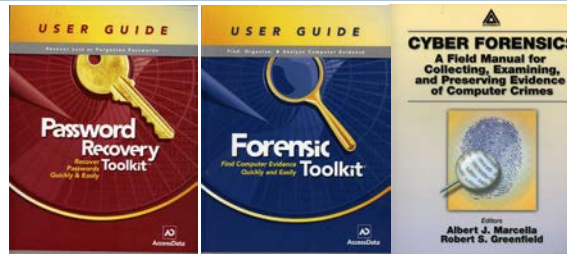
Perimeter and Facility Security

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Computer and Mobile Forensics

When the need is crucial to document the activities of a subject, the first place to go is the source of their daily communication: **Cell tower traffic and tracking, text messages, emails, and web search files.** Nothing gives a better profile in one step than digital forensics.

Computer and mobile device forensics are the keepers of your life. Everything that you do during the day has crumbs left in storage. Same is true for the subjects of investigations. The ability to thoroughly extract this information from of these devices, is not an easy task. **The reason why items are on these devices is even more important than the fact that they are there.**



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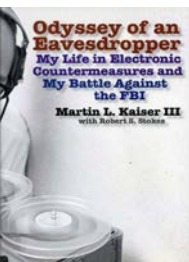
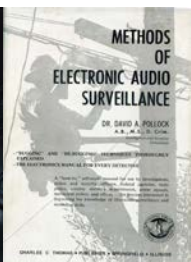
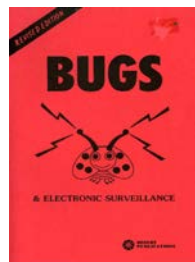


Technical Surveillance Counter-measures

TSCM is the process of securing a location from unauthorized electronic collection of proprietary information. It is the process of discovery, identification and removal of surveillance devices.

This concept is a highly specialized service that demands a thorough knowledge of the theory of every device possibly used to invade your privacy, and the understanding of the equipment and procedures to locate such devices.

The proliferation of bugging devices has made it possible for almost anyone to have the capability of obtaining access to your private information. Digital recorders, audio and video transmitters, camera and phone taps are all readily applicable as bugs. We not only understand the technology, we created some of it.

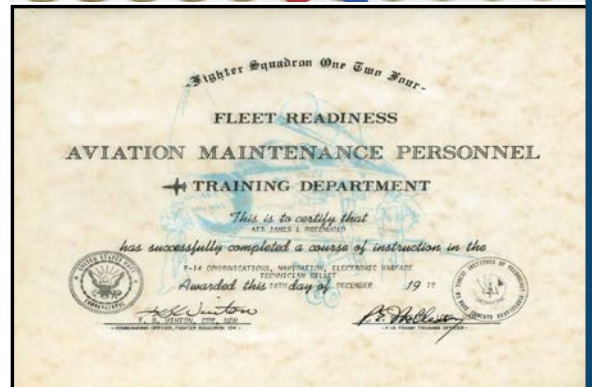
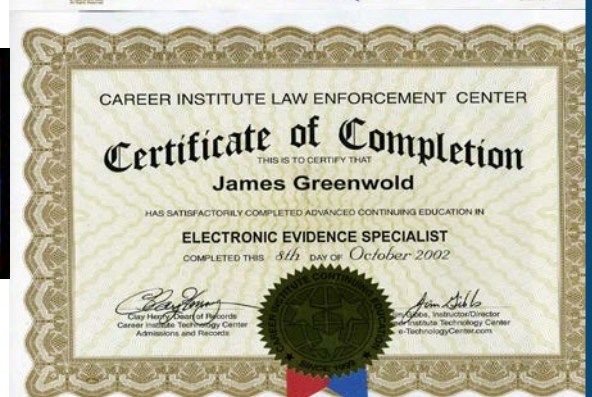
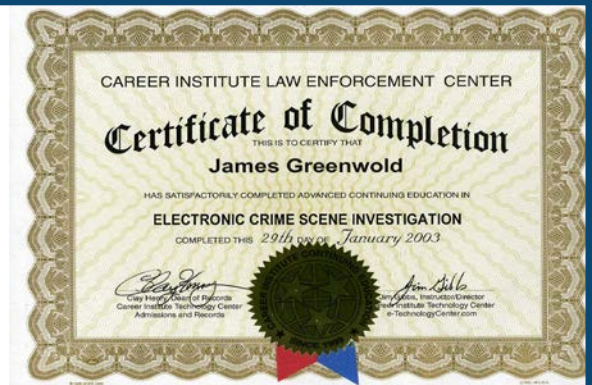


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Perimeter Security Assessment & Design

Whether business or home, these are the containers of the people you care about and the property that needs protection. **In many cases you would have a number of perimeters:** The property line, which is the first under your control, the access points to the building, the foot traffic restriction within the build-ing. Each needs to be addressed to keep the unauthorized away from sensitive materials.

Do you allow public traffic on to the property? Where are they allowed to park? Is there pedestrian traffic? Is access to the building limited? Are there occupants that control access? Do you keep track of access? Is the building laid out separating activity by floor or hall? Is the most sensitive stored in a controlled environment? Is access monitored?

If something does happen anywhere with your confines, do you have a way of looking back at the history of the event from the beginning?



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THIS IS TO CERTIFY THAT
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COMPLETED THIS 13th DAY OF August 2002

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Clay Hargrave, Instructor/Director
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Certificate of Award

THIS CERTIFIES THAT
JAMES L. GREENWOLD

Has successfully completed all requirements for the certification of
"Locksmithing and Keymaking"
by completing the studies offered by the Locksmithing Institute of America

Awarded this 27th day of FEBRUARY, 1993
Charles
Charles, Instructor/Director
Locksmithing Institute of America
Clayton J. Rife
Clayton J. Rife, Instructor/Director
Locksmithing Institute of America
Donna Hoffman
Donna Hoffman, Instructor/Director
Locksmithing Institute of America

Locksmithing Institute of America. Member of Associated Locksmiths of America

 Continuing Education
University of Houston

This certifies that

JAMES L. GREENWOLD

has satisfactorily completed 8 hours of organized instruction in
BASICS OF RUNNING A SMALL BUSINESS

SERVICE CORPS
OF RETIRED EXECUTIVES
Sponsored by
U.S. Small Business Administration

Joe Tramm
Joe Tramm, Director
Donna Hoffman
Donna Hoffman, Director
Bob L. Meier
Bob L. Meier, Director
APRIL 18, 1993



Seminars

Through out the years, our knowledge base has been shared. State association conferences, Bar Association luncheons, and independent seminars have gathered interested parties.

Court Presentations and 3D Animations

We show examples of science and technology finding: Statement errors, misleading information and other conflicts, bringing clarity to complicated cases.

Technology / Scientific Case File Analysis

Rapid evolution of forensic science procedures and equipment has made the puzzle pieces of scientific evidence show up in even the simplest of cases. As case complexity increases, informed assembly of the puzzle can tell: what pieces quite don't fit, which ones have been modified and which ones don't belong at all.

Crime Scene Protection and Collection

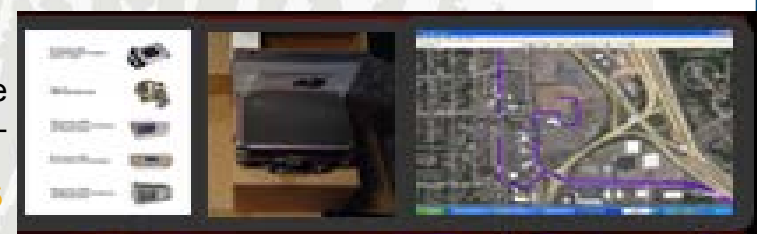
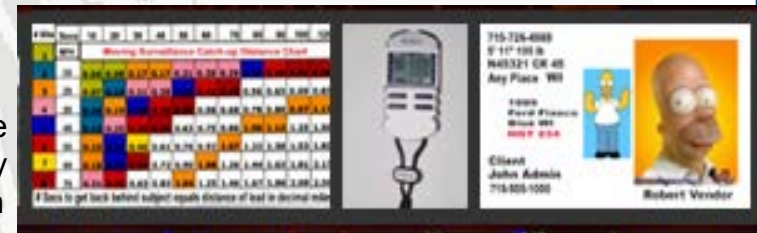
Stepping through the process involved in securing and collecting evidence from a crime scene guided by Wisconsin DOJ standard procedures as well as many other internationally recognized references, that all evidential evidence should reflect.

Surveillance and Investigative Techniques

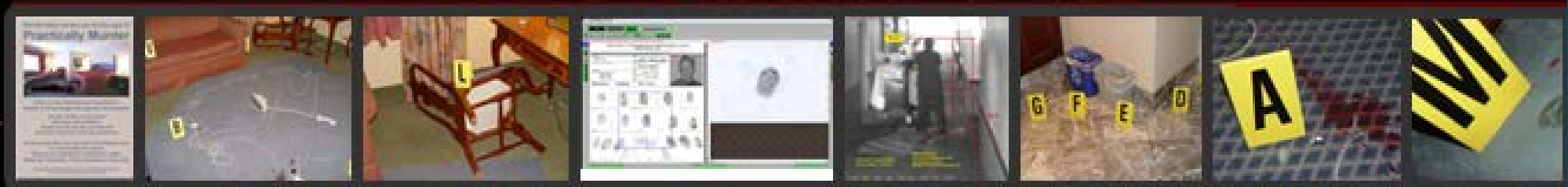
Attendees are lead through a case, starting with the theft of classified documents from a government contractor. Procedures and equipment used for discovering and analyzing evidence are discussed. Also, counter-measure tactics used by subjects.

Practically Murder

TSI has developed a Crime Game to be played by attendees. Walk through the scene and collect the evidence. Interpret the video, Audio, and lab results as well the witness statements and records..



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Knight Hawk Investigations

The More Comprehensive Definition Of Investigation

715-726-1400



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Test Mock-ups

Construct Mock-ups

Incident Reconstruction Animation

TSEM Debugging



Bibliography

It is not possible to include all references studied and experience gained over decades.

The titles included are JUST the foundation of the expertise absorbed from formal and self study, offered to demonstrate the breadth and depth of knowledge of TSI.

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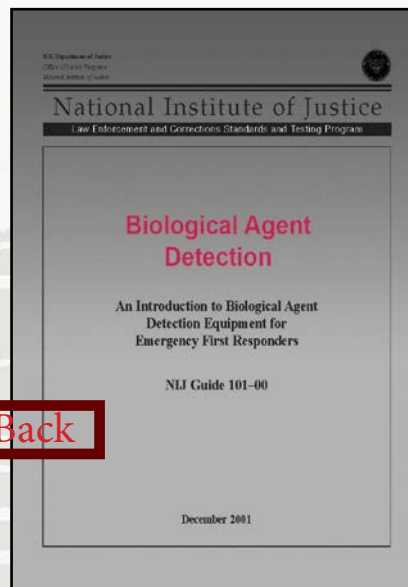
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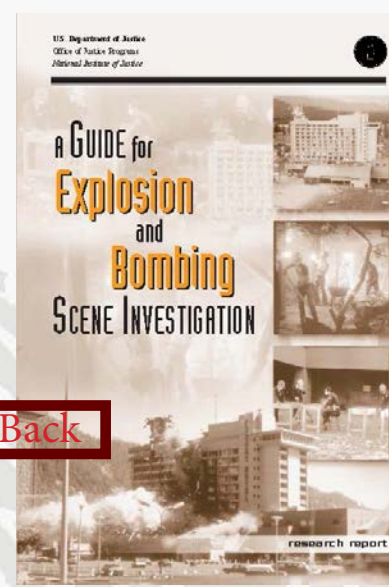
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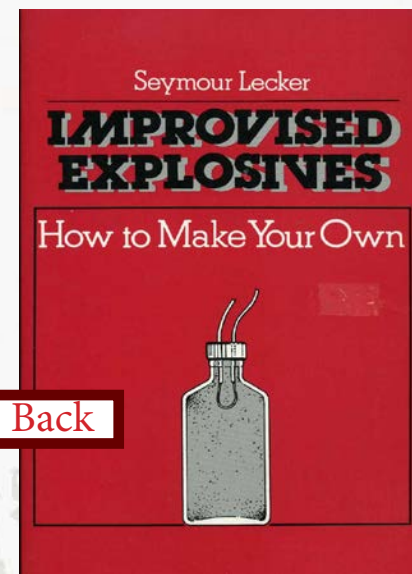
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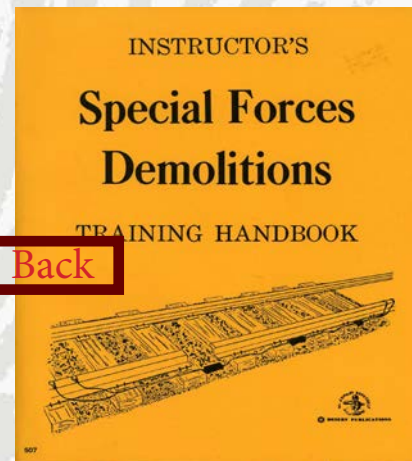
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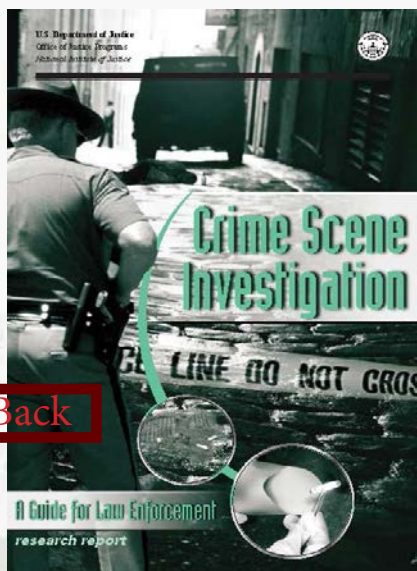
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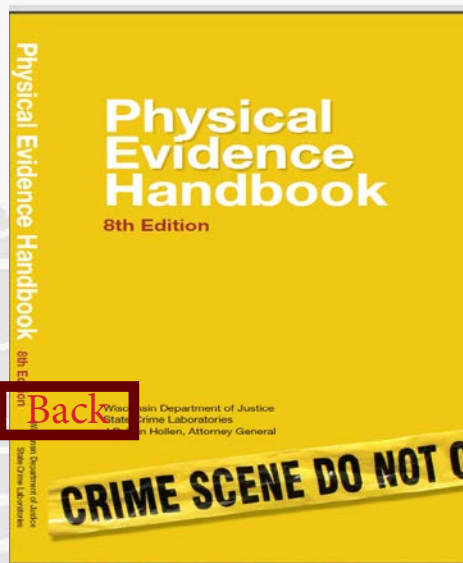
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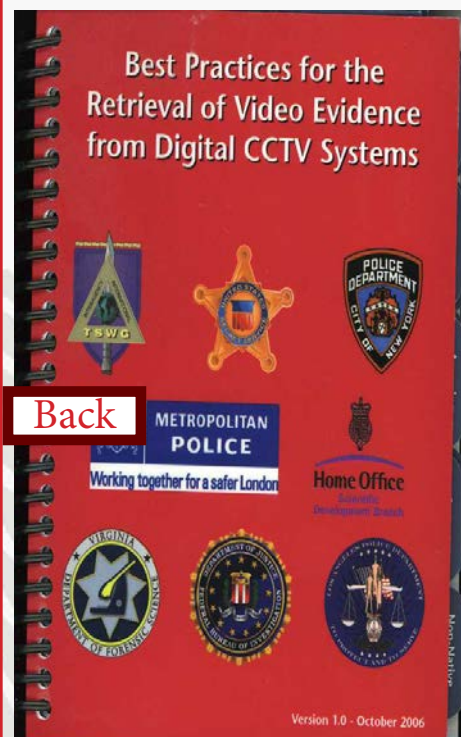


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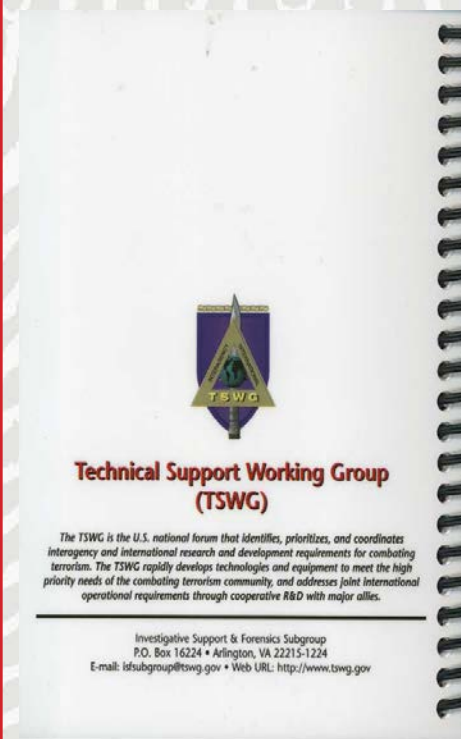
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With Metal Detectors

Effective Ground Searching



A Basic
Planning
Handbook

by
Garrett
Metal
Detectors

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Company Comment

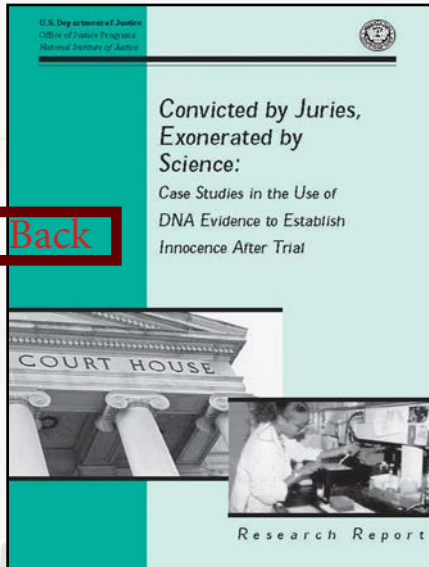
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Attorneys

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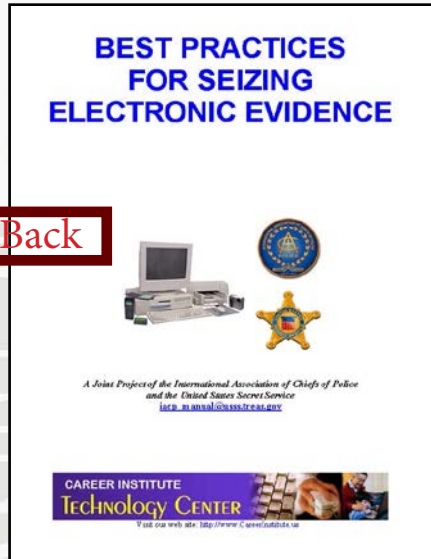
Future DNA Forensic Uses

David Shephard

Walter Snyder

David Vasquez

Glen Wbodall.



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BEST PRACTICES FOR SEIZING ELECTRONIC EVIDENCE

A Joint Project of the International Association of Chiefs
of Police and the United States Secret Service

Introduction

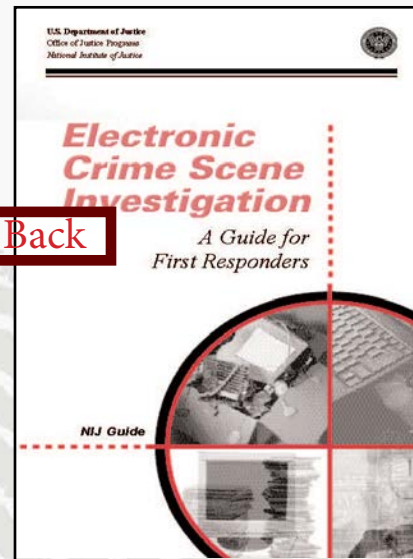
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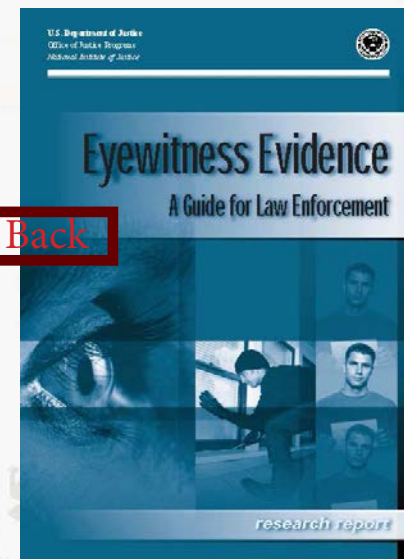
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With

Graphic Insight

HOW TO ANALYSE HANDWRITING

The Graphic Insight way

By

Sandra Fisher

A handwriting analysis study program

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A Final Word of Encouragement

The Mark of Genius

Signs of Genius and Giftedness in Handwriting

by

Sandra Fisher

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Pen portraits of 30 gifted and exceptional achievers

A Graphic Insight Book

<http://www.graphicinsight.co.uk>

The Mark Of Genius

The Handwriting Analysis of Notable History

Leonardo Da Vinci

Wolfgang Amadeus Mozart

Napoleon Bonaparte

Ludwig Van Beethoven 1770 -1827 - Composer

Jane Austen 1775-1817 - Novelist

Charles Babbage 1791 -1871 - Mathematician, Inventor

Victor Hugo 1802-1885 - Writer

John Stuart Mill 1806 -1873- Philosopher/Economist

Charles Darwin 1809-1882 - Scientist

Soren Kierkegaard 1813-1855 - Philosopher

Walt Whitman 1819-1892 - Poet

Louis Pasteur 1822-1895 - Doctor/Scientist

Gustave Eiffel 1832-1923 - Engineer

Emil Zola 1840-1902 - Writer

Thomas Edison 1847-1931 - Inventor

Vincent Van Gogh 1853 - 1890 - Artist

Oscar Wilde 1854-1900 - Writer

Sigmund Freud 1856-1939 - Psychoanalyst

Henri Bergson 1859-1941 - Philosopher

Winston Churchill 1864-1965 - Political Leader

Carl Gustav Jung 1875-1961 - Analytical Psychologist

Albert Einstein 1879 -1955 - Scientist, Physicist

Pablo Picasso 1881-1973 - Artist

John Ronald Reuel Tolkien 1892-1973 - Writer

Walt Disney 1901-1966 - Cartoonist

Linus Pauling 1901 -1994 - Chemical Engineer

Robert Oppenheimer 1904 -1967 - Physicist

Alan Turing 1912-1954 - Mathematician, Cryptologist, Inventor

Anatoly Karpov 1951 - Chess Master

Boris Spassky 1937 - Chess Master

Conclusion

Graphic Insight

presents

The Hidden Meaning of Handwriting

By

Sandra Fisher

How to understand personality

with

Graphic Insight

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e-mail:

sandra@graphicinsight.co.uk

website: <http://www.GraphicInsight.co.uk>

The Hidden Meaning Of Handwriting

Collecting samples

The Outstanding First Impression

Legibility

General Layout

Margins

Alignment or Direction of Lines

Spacing between Lines

Spacing between Words

Zones

Middle Zone

Upper Loops

Lower Loops

Right and Left Tendencies

Angle of Writing

Size of Words

Size of Words Increasing or Decreasing

Width and Narrowness

Speed

Pressure

Forms of Connection

Degree of Connection (Connectedness)

Simplified or Elaborated Writing

Horizontal Expansion

Vertical Extension

Initial Strokes

Terminal Strokes

Rhythm and Regularity

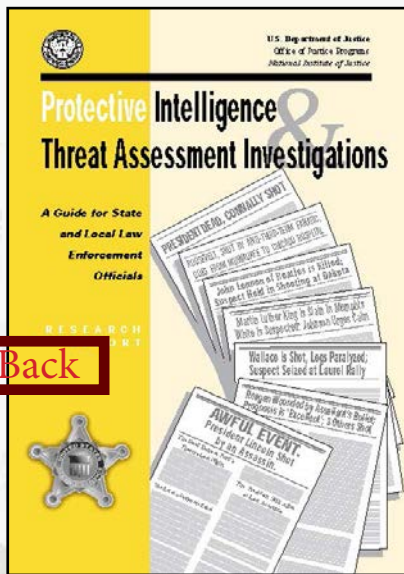
T-Bars

I-Dots

Capitals

Personal Pronoun (PPI)

Signatures



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Message From the Director, National Institute of Justice
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Myth 1
Myth 2
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Attacks are the product of organized thinking and behavior
Attacks are the means to a goal
Motive and target selection are directly connected
Who is dangerous?

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Effective Design
Key Functions of a Protective Intelligence Program
Identification
Assessment
Case management
Functions and Approaches of the Case Investigator
Investigative skill
Corroboration
Common sense
Building a Database and Sharing Information

Chapter 4. Conducting a Threat Assessment Investigation

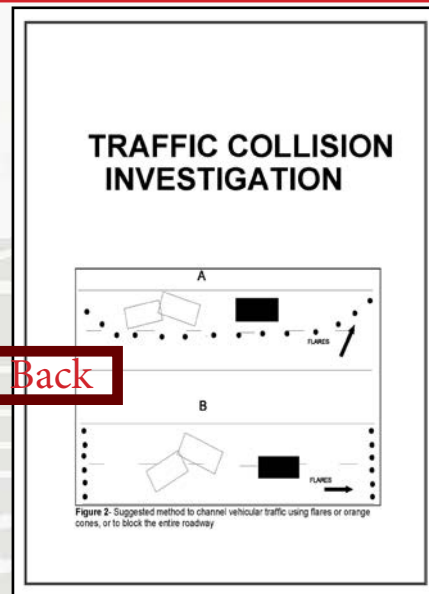
Opening a Case
Inappropriate or unusual interest
Threats
Investigating a Case
Interviewing the subject
Content of a protective intelligence investigation

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Closing a Case
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TRAFFIC COLLISION INVESTIGATION

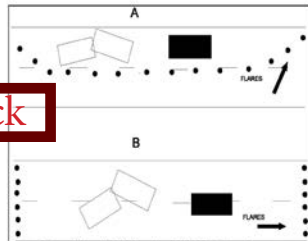


Figure 2. Suggested method to channel vehicular traffic using flares or orange cones, or to block the entire roadway

Traffic Accident Investigation

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Patrol vehicle operation
Collision scene management
Traffic cones/flares
Interviewing drivers & witnesses

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Skid marks
Skip skids
Gap skids
Acceleration marks
Tire tread print
Scuff marks
Metal scars
Debris
Other signs of impact
Chapters: What the vehicle shows
Contact and induced damage
Exterior damage assessment
Vehicle impact orientation
Rollovers
Vehicle interior examination

Chapter 4: Measuring and diagraming the collision scene

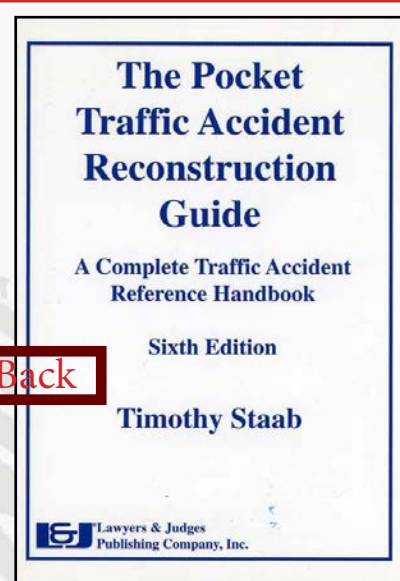
What to mark and measure
Diagraming the scene
Coordinates
Triangulation
Drawing the scale diagram

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Combined speeds

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The Pocket Traffic Accident Reconstruction Guide

A Complete Traffic Accident Reference Handbook

Sixth Edition

Timothy Staab

Lawyers & Judges Publishing Company, Inc.

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Airborne Projectile Motion
Center of Gravity/Mass
Conservation of Momentum
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Distance
Drag/Acceleration Factor (g)
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Grade
Kinetic Energy
Low-Speed, Rear-End Impact
Pedestrian Impact
Pedestrian Sliding/Tumbling Friction
Principal Direction of Force

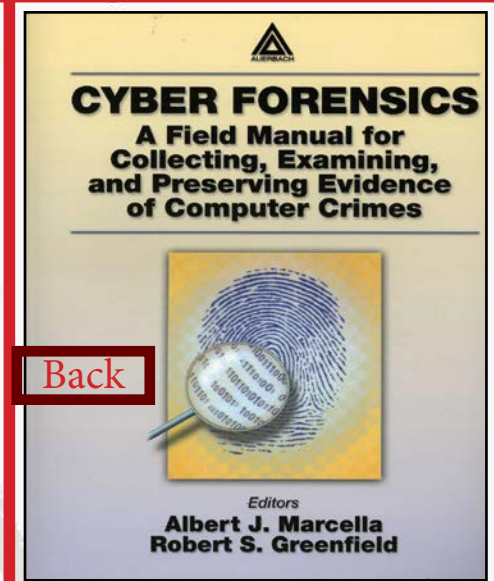
Radius of a Circle

Right-Handed Coordinate System
Roll over/Rotating Vehicle Friction
Speed from Damage (Vehicle)
Speed from Pole or Tree Impact
Speed/Velocity Change (delta-v)

Time

Vehicle Model Year from VIN

Velocity
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CYBER FORENSICS

A Field Manual for Collecting, Examining, and Preserving Evidence of Computer Crimes



Editors

Albert J. Marcella
Robert S. Greenfield

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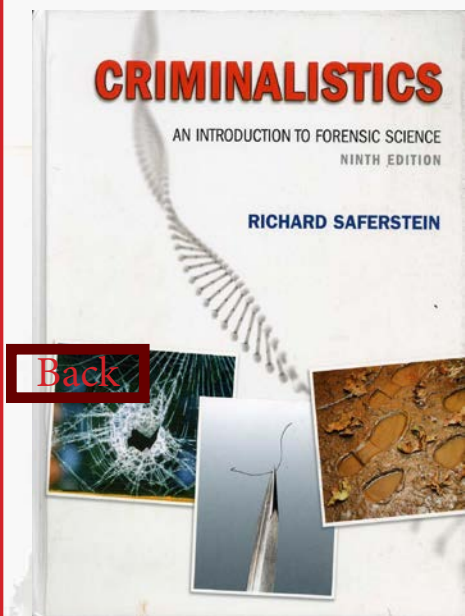
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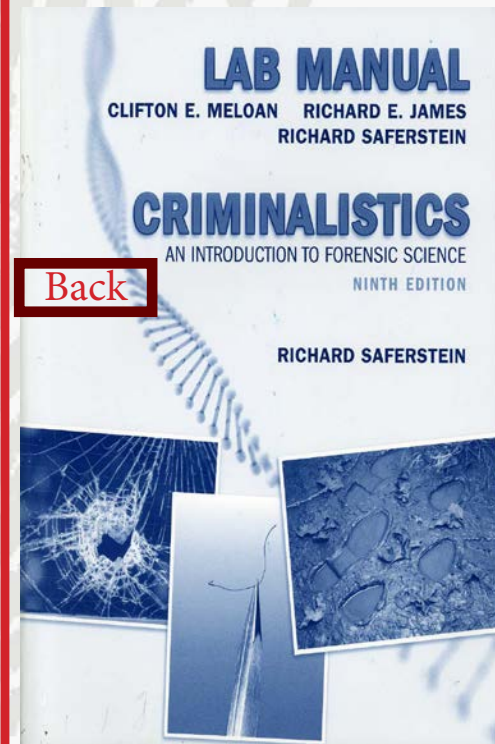
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FORENSIC SCIENCE

From the Crime Scene to the Crime Lab



Richard Saferstein

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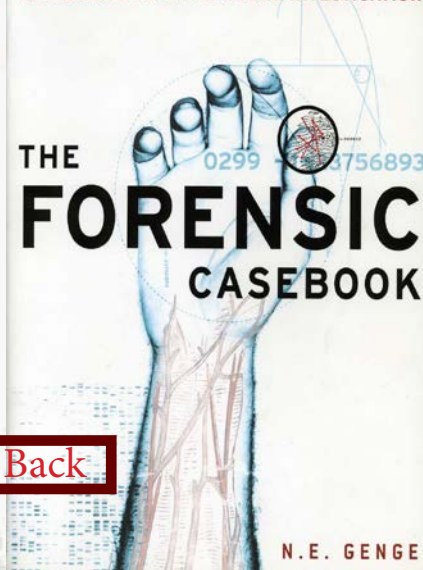
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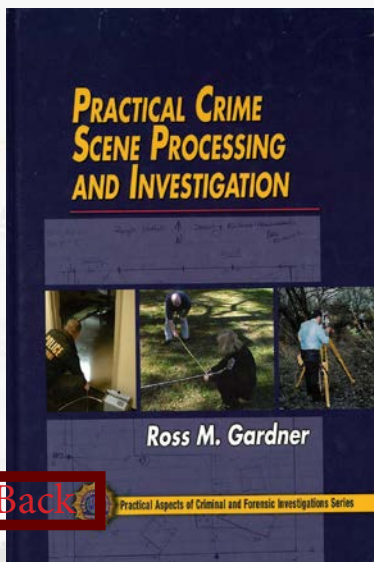
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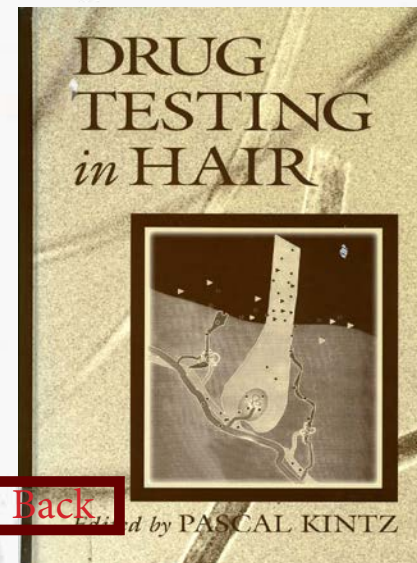
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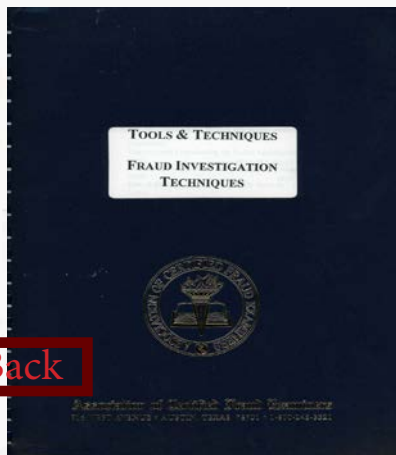
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8:00 - 9:20	Planning and Commencing the Fraud Examination
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10:55 - 11:10	Break
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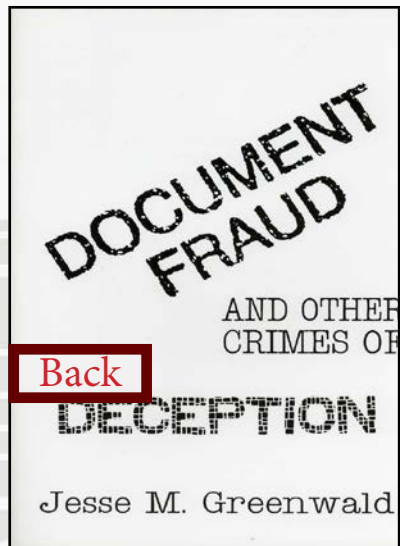
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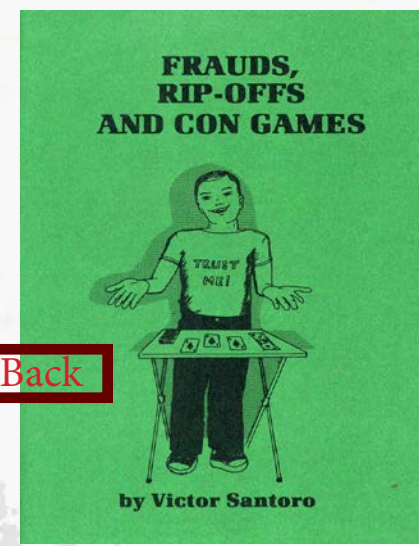
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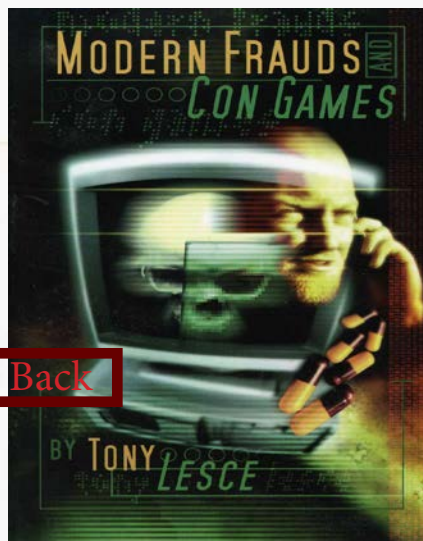
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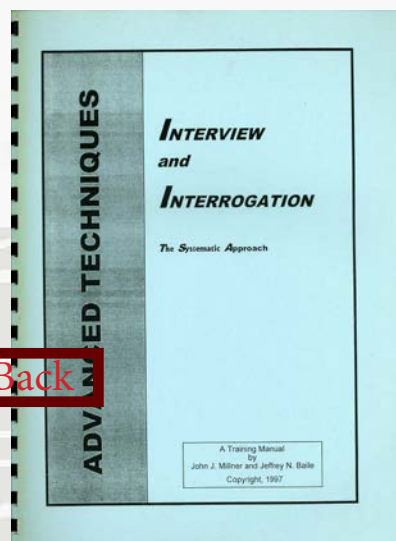
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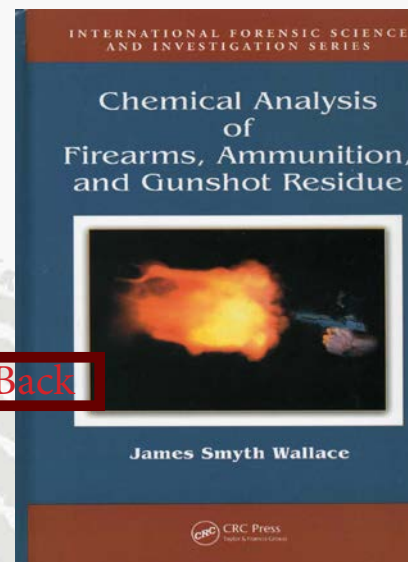
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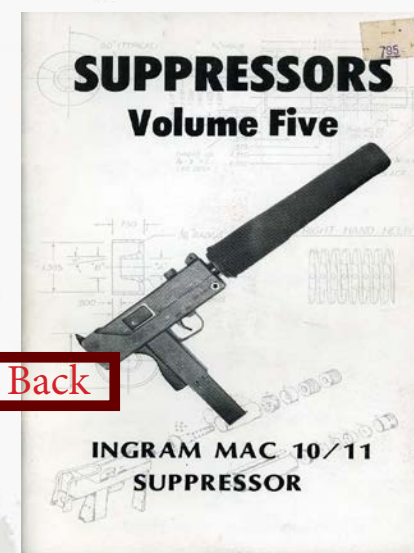
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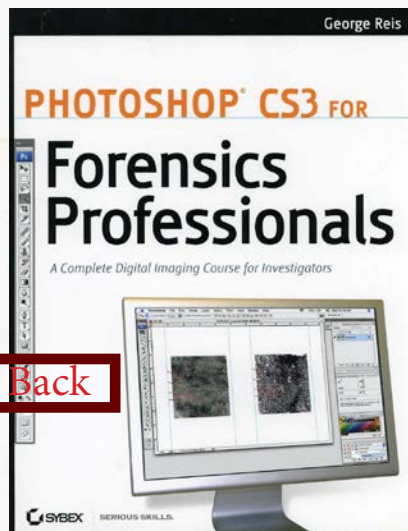
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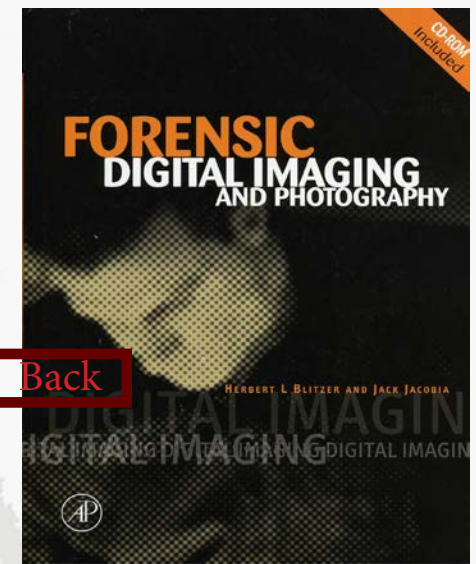
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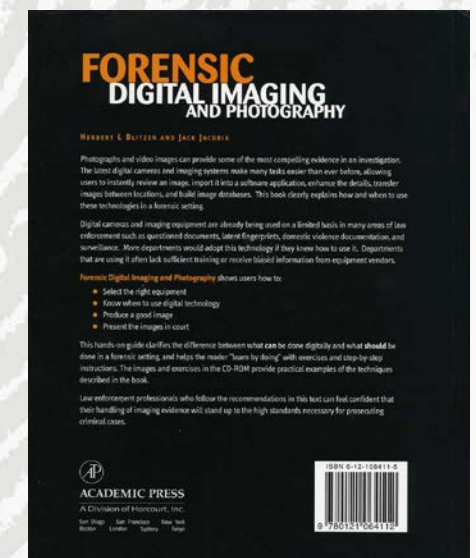
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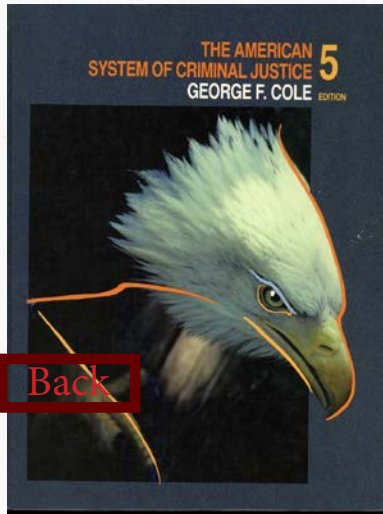
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Joshua Brunty
Katherine Helenek

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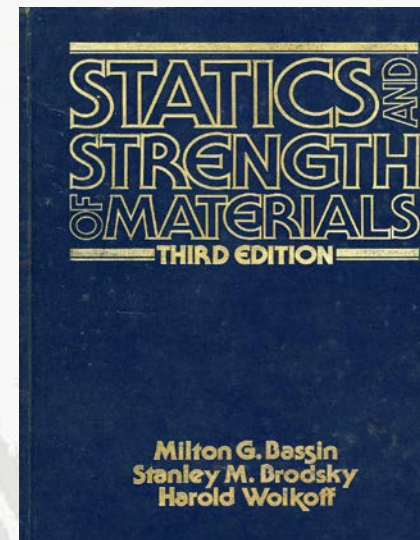
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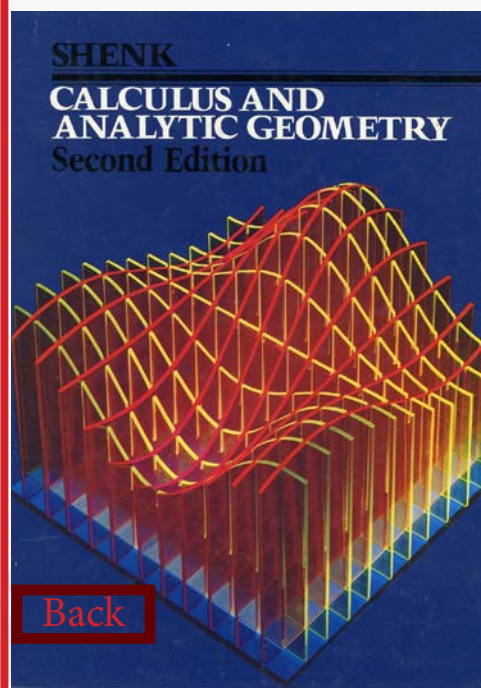
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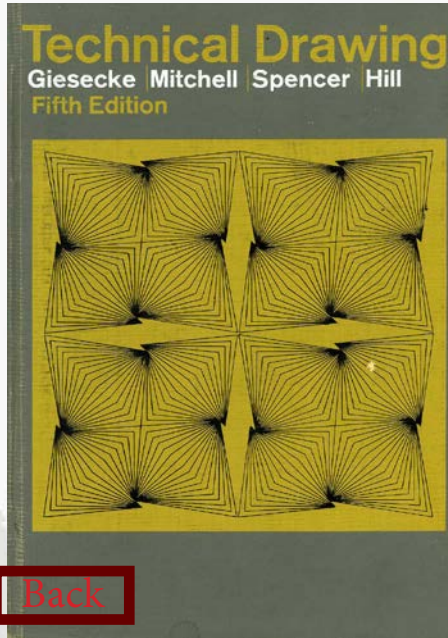
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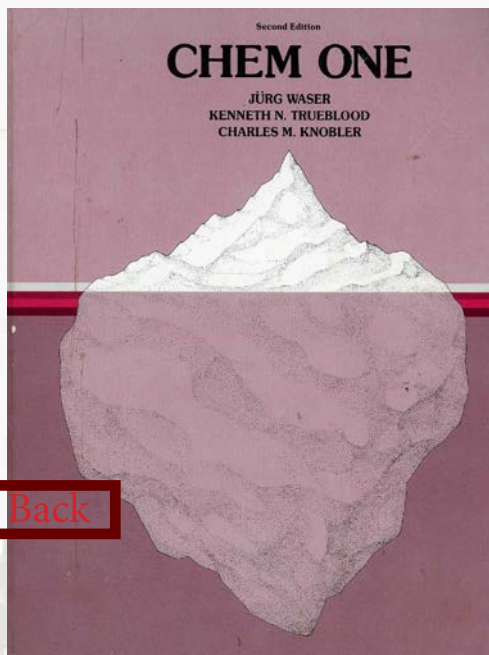
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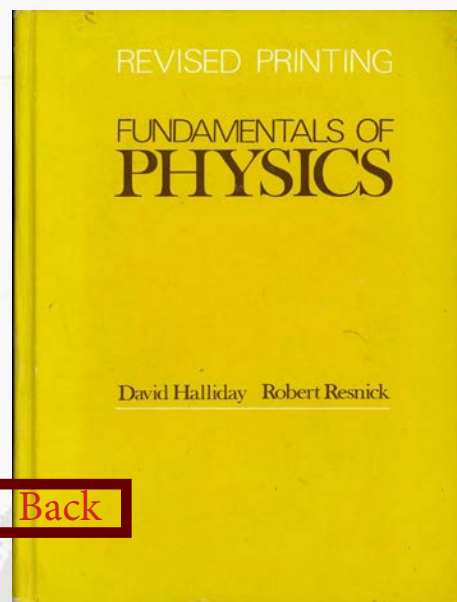
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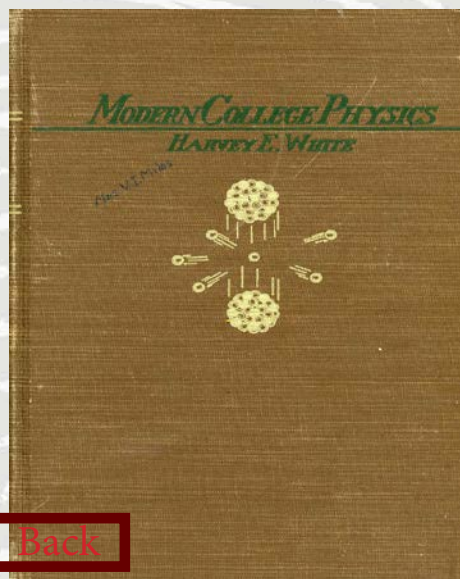
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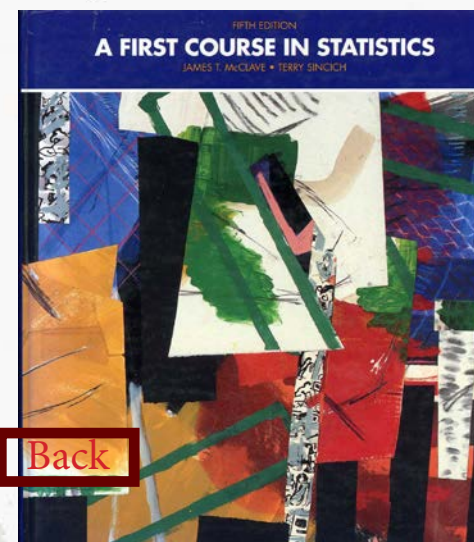
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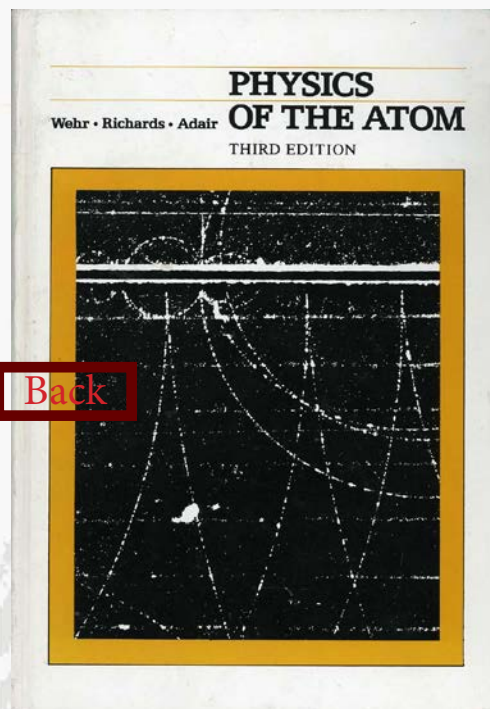
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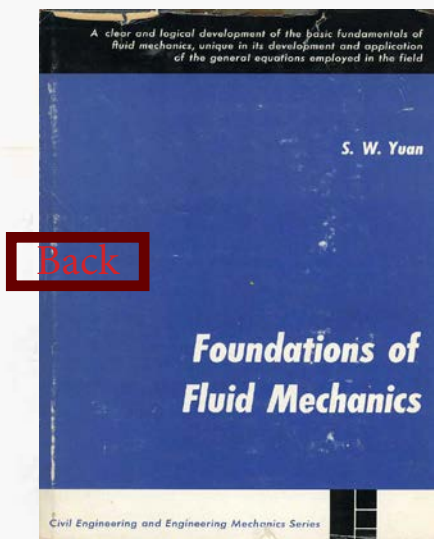
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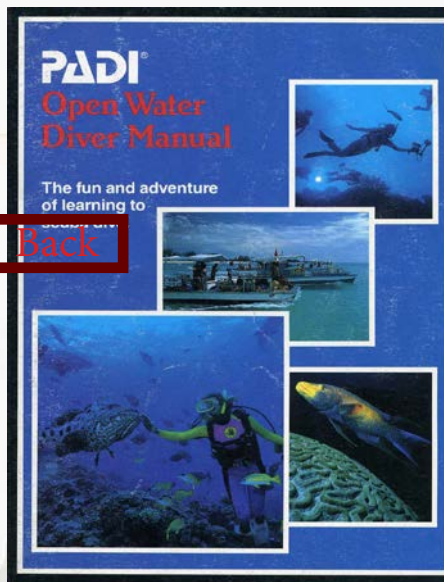
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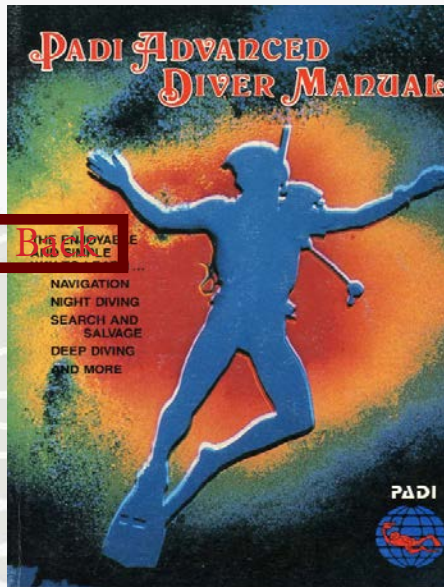
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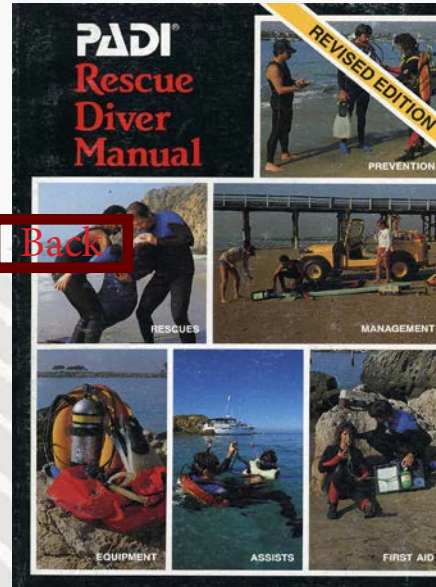
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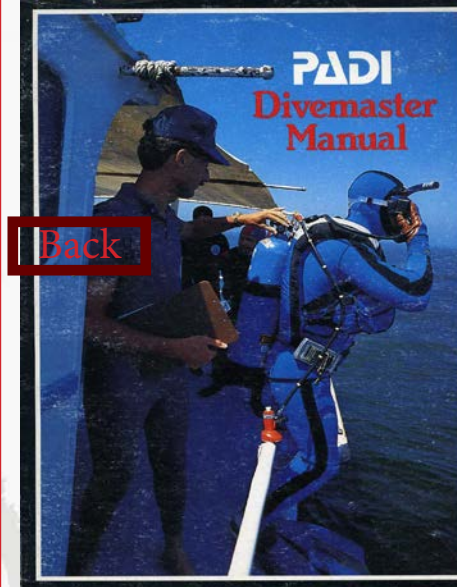
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With Metal Detectors

Effective Security Screening



A Basic Planning Handbook
by
Garrett Metal Detectors

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1. Metal Detectors and Security
2. How Metal Detectors Work
- Diagram of a Security System
3. Planning a Security System
4. Detectors in a Security System
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7. Glossary
- Hand-scanning Diagram

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A BASIC GUIDE for organizing a successful screening system
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Surreptitious Entry

Willis George

Most people call it burglary, but when it's done for Uncle Sam, "Surreptitious entry" is the preferred piece of verbal camouflage used to mask I.S. government breaking-and-entering operations.

Scoring an important publishing coup, Paladin has discovered and now makes available this long-out-of-print historical classic, written by one of the pioneers of illegal clandestine trade-craft. Willis George (author of "Locks, Picks, and Clicks and other lock-picking and safe-cracking training manuals) learned the criminal trade while working as an undercover U.S. Treasury agent among narcotic and alcohol smugglers in Cuba.

He went on to become the top investigative agent for U.S. Naval Intelligence, breaking into the offices of suspected Nazi spies and gathering incriminating evidence for prosecution. Finally, George joined the famed OSS and was appointed chief instructor of surreptitious-entry techniques, eventually heading his own lock-picking and safe-cracking team in wartime Europe. This insider's story of counterespionage could be used as an intelligence-gathering training Manual. It is also a timely expose on how the U.S. government will circumvent the law in the name of national security.

LOCKSMITHING and KEYMAKING



LOCKSMITHING INSTITUTE OF AMERICA

Home Study Course On Locksmithing and Key Making For Locksmith Certification History of locks and keys

- 1 How to Identify Cylinder Keys and Blanks
- 2 Duplicating Cylinder Keys
- 3 Duplicating Flat Keys
- 4 Making Standard & Antique Bit Keys
- 5 Fitting Keys to Warded Padlocks
- 6 What is a Security Lock
- 7 Level Locks
- 8 Pin Tumbler Cylinder
- 9 Pin Tumbler Cylinder

Changing Combinations and Fitting First Keys

Advanced Data on How to Disassemble a Pin Tumbler Cylinder Without a Key
Locksmith Dictionary
Cylinders, Keys and Master Keying



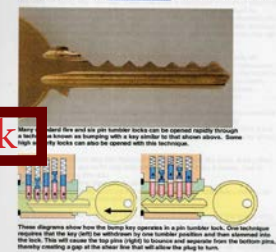
A Technical Analysis of Bumping
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OPENING LOCKS BY BUMPING IN FIVE SECONDS OR LESS: IS IT REALLY A THREAT TO PHYSICAL SECURITY?

A TECHNICAL ANALYSIS OF THE ISSUES

Revised on April 1, 2006 by [redacted]

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A Technical Analysis of Bumping

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Document 060922107

SYNOPSIS: THE REAL WORLD OF BUMPING LOCKS

Every commercial location and every consumer can potentially be the victim of a technique of opening locks known as bumping. If they use conventional pin tumbler cylinders where they live, work, or transact business, then they may be at risk.

A separate report has been released that demonstrates that millions of post office rental mailboxes provided by the U.S. Postal Service and by a private global mail delivery service can be opened in seconds with a bump key. There are hundreds of millions of pin tumbler locks worldwide, and thus, this is not an abstract issue. Although mailboxes may require a higher level of security, there are hundreds of other applications that may be just as critical and vulnerable.

This analysis presents detailed information regarding the security threat posed by the "999" or bump key. Although there has been a significant amount of attention paid to the topic of late, there are complexities that must be understood to accurately gauge its impact upon security. As noted in the following material, the critical issue is the ability to obtain any key that fits the target lock. This requires the identification of the manufacturer and keyway so that a proper bump key can be produced.

If that challenge is met, then there is ample documentation that virtually all conventional pin tumbler cylinders are at risk. As will be noted in our discussion, the practical issues in obtaining keys depend in large measure upon the location of the target lock and whether it has a special keyway that may not be readily available. In addition, if the lock utilizes sidebar technology, then the task becomes a great deal more complicated and will likely result in failure.

To put this discussion in proper perspective, each of the following steps must be successfully completed in order to have a high probability of opening conventional five or six pin locks as well as "standard" dimple locks within a few seconds. None of the steps are particularly complicated, but failure at any stage can result in the inability to open the lock.

HOW TO CIRCUMVENT A SECURITY ALARM 10 in SECONDS or Less

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*An Insider's Guide to
How It's Done and
How to Prevent It*

B. ANDY

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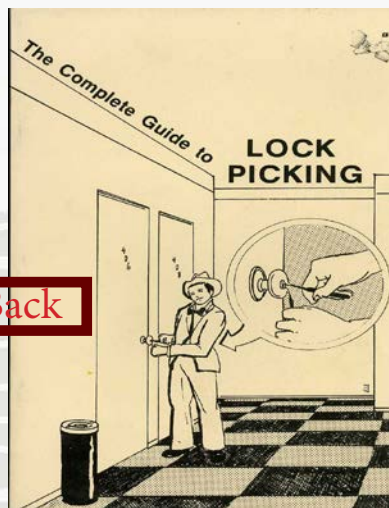
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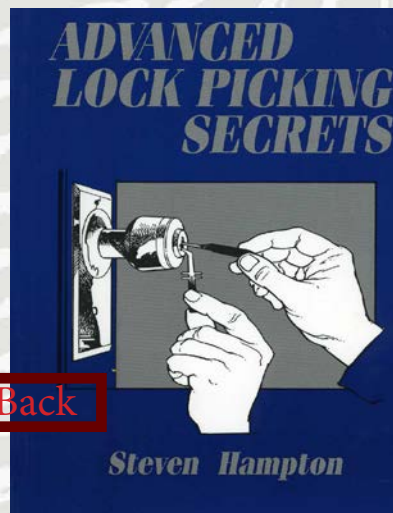
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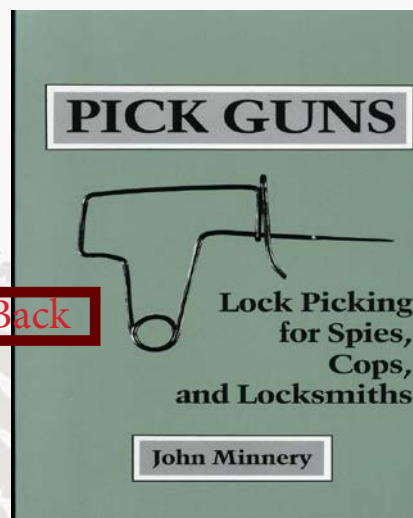
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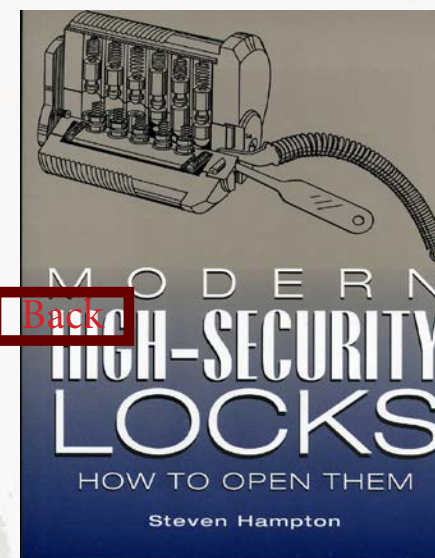
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The Cooke Patent

The ability to open locks without keys is one of the few awe-inspiring skills left in a world where mechanical marvels and electronic wonders are boringly commonplace. Yet it is a skill that is no longer monopolized by locksmiths who jealously guard their secrets. The pick gun has taken the art of lock picking away from a select few and democratized the ability to open locks by mechanical means. This book gives an overview of the mechanical principles of pick guns—how they work and how to use them—and traces the development of the pick gun from its inception in the 1920s to today's revolutionary devices. Included are the original patents for lock-picking guns by Epstein, Segal, Miskill, Moore, Crasnianski, and Cooke, as well as instructions for pick guns used by the FBI and federal intelligence agencies. Photographs depict homemade pick guns designed by the author, made out of such ordinary items as coat hangers and clothespins.

Though sometimes abused by criminals, industrial spies, and government agents, the pick gun has by and large been a boon to the professional locksmith and a terrific aid to law enforcement and even national security. Because of the potential for abuse, however, this book is offered for information purposes only.



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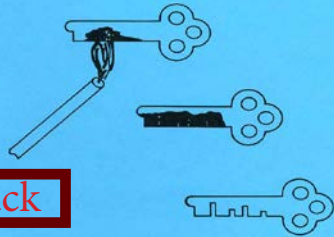
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 - Chapter 8: Isolated Keyed Tumbler Locks
 - Chapter 9: Keyed Disc Tumbler Locks
 - Chapter 10: Electronic Key Locks
 - Chapter 11: Electronic Combination Locks

Master locksmith Steven Hampton, author of the best-selling *Secrete of Lock Picking*, takes the art of picking locks one step further with *Modern High-Security Locks*. Here, he collects some of today's most popular pick-resistant locks and sets out to see which ones hold up to their claims.

Generally speaking, the more complex a lock, the more secure it is. However complex the lock gets, though, it must be durable, dependable, and user-friendly. It has to be tough enough to endure physical attack, but it can't be machined too tight or it will jam up with just a breath of dust. It must be simple and easy to lock and unlock with its key, or the customer will not pay the higher price for it. It is this delicate balance between security and utility that allows the locksmith to open this new generation of locks. Hampton shows locksmiths how each lock is picked and how long it will take. He details the tools of the trade and includes patterns and instructions for making your own picks and tension wrenches. He even includes ancient Tibetan Buddhist tantric visualization exercises to help locksmiths learn to "see" the inner workings of the lock within the mind's eye.

Veteran locksmiths or those new to the trade will find Hampton's latest book an invaluable source book. For academic study only.

HOW TO FIT KEYS BY IMPRESSIONING

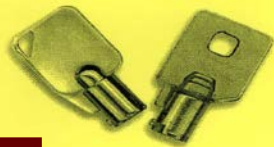


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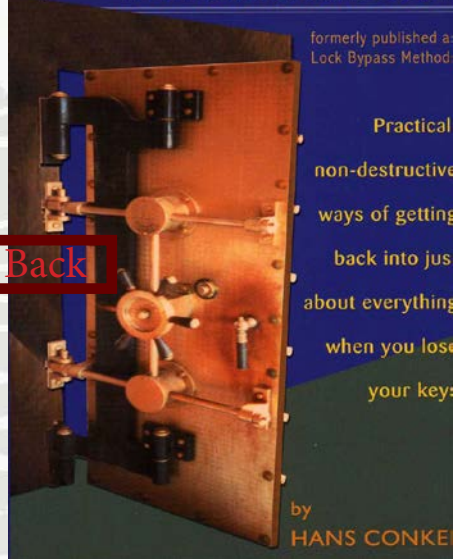


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Expanded Edition HOW TO OPEN LOCKS WITH IMPROVISED TOOLS



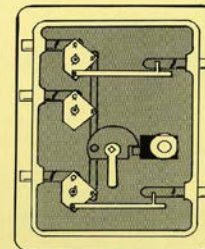
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METHODS OF ELECTRONIC AUDIO SURVEILLANCE

DR. DAVID A. POLLOCK
A.B., M.S., D. Crim.
Intelligence and Security
Consultant

"BUGGING" AND "DE-BUGGING" TECHNIQUES THOROUGHLY
EXPLAINED
-THE ELECTRONICS MANUAL FOR EVERY DETECTIVE

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A "how-to," self-study manual for use by investigators,
police and security officers, federal agencies, state
police, county sheriffs' departments, arson squads,
municipal police, and others...for anyone interested in
improving his knowledge of electronic surveillance and
ording skills.

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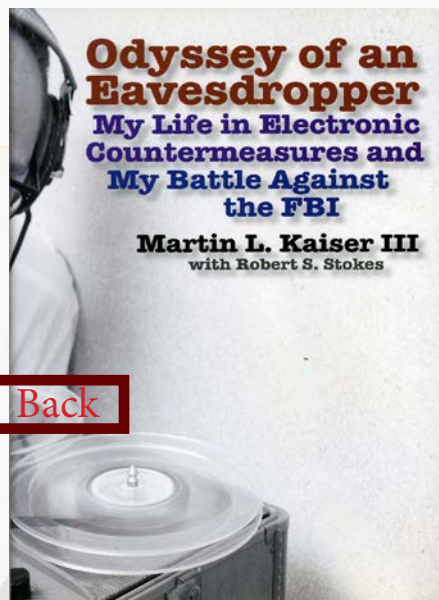
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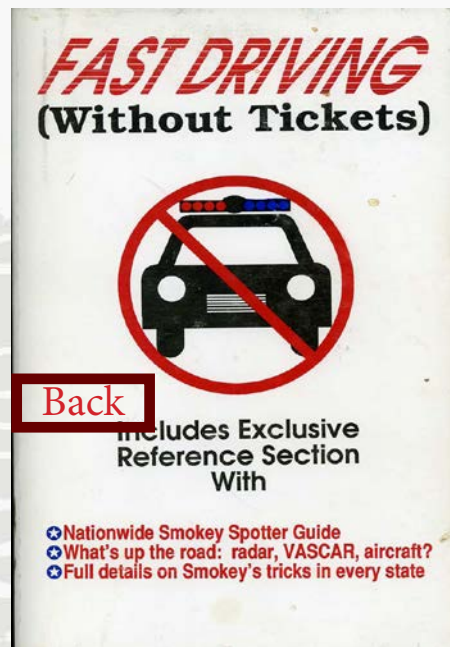
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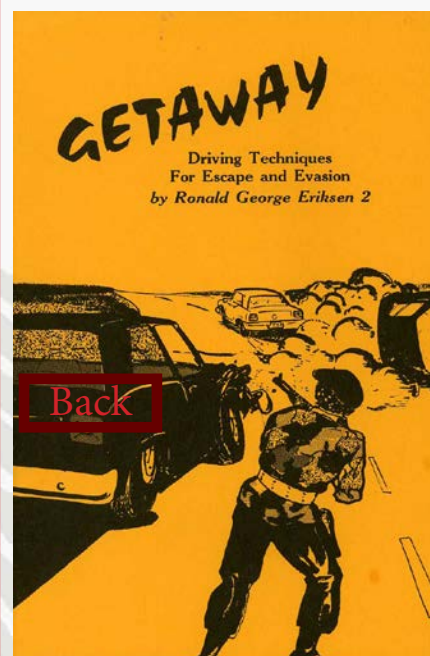
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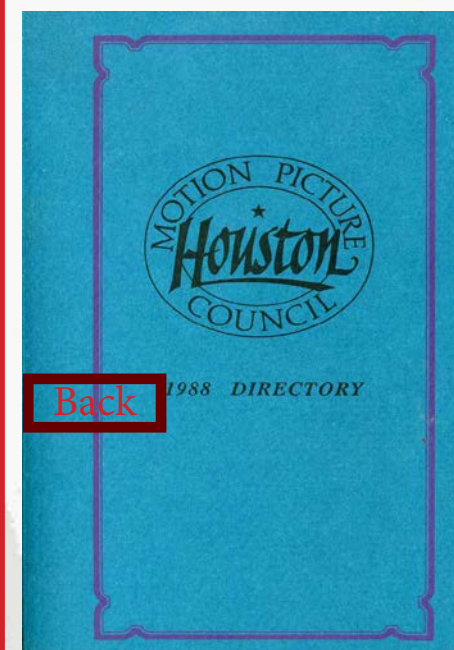
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GREENWOLD, JAMES

Special Effects, On-Camera Props,

Stunt Equipment dba:

IDEA MACHINE 210

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JAMES GREENWOLD is an inventor/fabricator of all forms of props, special effects, and gadgets. He offers facilities for electronics, machining, sheet-metal, and plastics. Can produce a device to answer any need, IE: Robotics, Believable Fictional Devices, Magical Effects.

CREDITS:

'84 KNIGHT RIDER/Body Panel

On-Camera

Design Prop '83 KNIGHT RIDER

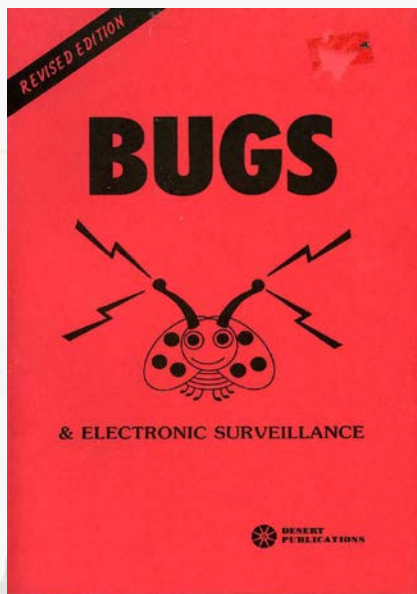
Overhead Console On-Camera

Design Prop

'83 RETURN OF THE MAN

On-Camera FROM UNCLE

Prop (Gadgets)



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Wristcam 1993

Worlds First Video Camera in a Wristwatch
640 x 480 Resolution
Black and White



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The less-lethal toolbox

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Less Lethal Showcase
Duty Gear Showcase

Tardis Worlds First Portable Digital Video / Audio Recorder



Tardis is disguised in this bonus pack of Marlboro 100's.

If you know surveillance equipment, it takes more than a transmitter hidden inside a cigarette pack to impress you. With Tardis, the latest innovation from the Bureau of Technical Services in Chippewa Falls, Wisconsin, (the cigarette package holds a two-channel FM audio-video receiver and DVD-quality recorder. Dovolos and Associ-

ates of Edina, Minnesota, uses a lot of video equipment to capture images as evidence, but George Dovolos. Private investigator for 35 years, hasn't seen anything like Tardis.

"The fact that it is many pieces of equipment in one cuts my buying costs and adds flexibility," he says.

Dovolos appreciates having a selection between a wireless video receiver or hardwire inputs and the versatility of having a video recorder, video time lapse recorder and video event recorder — all in one small package.

Getting rid of tape

Private investigator and Bureau of Technical Services CEO James Greenwold, came up with the idea for Tardis. He started building surveillance equipment as a hobby 40 years ago. His hobby evolved into the predominant division of his business, Tactical Surveillance Inc., Which has three divisions in all:

- The Bureau of Technical Services designs and builds surveillance equipment and offers contract forensic laboratory support to investigators.
 - The Tactical Surveillance Insertion Team offers quick response Tardis is disguised in this bonus pack of Marlboro 100's.
 - technical .surveillance nationwide.
 - Knight Hawk Investigations is joined by the Tactical Surveillance Insertion Team, as the proving ground for the design of equipment built by BTS."I try out everything on the market in the attempt to make our investigator's job easier and require less equipment to carry around," says Greenwold, who wasn't fond of attempting to conceal a MiniDV recorder in a fanny pack or under his arm because "it just wasn't elegant."
- With his company's latest solution, this investigator with an engineering background wanted to utilize digital video random access technology and at the same time get away from the upload time required by using MiniDV or any other medium with tape.

"Uploading tape to a computer takes forever," says Greenwold. "If you shoot an hour of tape, up loading it to a hard drive to edit, enhance, zoom or whatever can take almost as long as it did to shoot." Another disadvantage of tape, he says is needing to fast forward or rewind to find the required evidence.

Using a 5 GB PCMCIA hard drive for storage, Tardis eliminates up-loading time and frame-searching headaches. "Tardis records everything on a hard drive in the first place," says Greenwold, who about three years ago noticed that a PCMCIA hard drive is about the same footprint as a cigarette pack. "Pulling the drive out of Tardis and inserting it into the PCMCIA slot on the laptop takes about as long to say as it takes to do."

Digital video offers many benefits. Video files are stored in an MPEG 2 format (the same compression used to make DVD movies). Results are a cleaner and higher resolution picture. There is no need for fast forwarding or rewinding because MPEGs can be randomly searched. Each time a recording is made, a time-stamped file is generated on the drive in the folder named "mpg." When playback is required, the file is opened and can be "scrubbed" to the desired frame on most MPEG 2 players. If desired, the files can be burned to DVD. A date/time stamp is imprinted on each frame with a single line of text to label the scene. This data block is displayed on the screen in the user's choice of colors and sizes. Cameras or microphones are not included in the basic set. Tardis is compatible with most equipment on the market, Greenwold says, including the Bureau of Technical Services' first product, the Wristcam, the world's first video camera in a wristwatch. Both NTSC and PAL formats are supported by Tardis by just selecting the format in the set up menu.

Parameters

Although Tardis is small, its capabilities are big.

While some consumer digital photo cameras can store about 45 minutes of low-resolution video, Tardis' memory card can store up to 8 hours of recording. The video quality and time of recording are a trade off, of course. Tardis resolution ranges from video similar to what can be seen from a Webcam on the long record time to video seen on DVD HD 720P in the 2-hour mode. Specifically, the trade offs on the 5 GB drive are:

- Extended record (similar to a Webcam, no audio) — 469 minutes, 360x240 p, 15 frames per second.
- Low resolution — 247 minutes, 720x480 p, 29.97 frames per second.



- Medium resolution (similar to VHS) — 151 minutes, 720x480 p, 29.97 frames per second.
- High resolution (similar to DVD) — 110 minutes, 720x480 p, 29.97 frames per second.

For optimum playback,

a computer with a minimum of 2 GHz Pentium 4 processor with 256 mg RAM is recommended.

Models

Tardis, which Greenwold says is the smallest digital video recorder on the market, is available in three models.



Modes of operation are set up using a GUI interface.

Greenwold realized that if Tardis was going to be inside a cigarette package and totally covert, it couldn't have wires. The Tardis RF (radio frequency) model has a built-in wireless receiver to receive the signal from a camera that can be on your body or set up in the room being surveilled. The operating frequency for the video/audio receiver is 908/922 MHz FM modulated. A 120 mw law enforcement/government transmitter can be used with Tardis for wireless surveillance. For those who only trust hard-wired systems, the same RF model comes with an environmentally protective housing/docking port. Tardis is pulled out of the cigarette pack, put in its adapter and plugged into a wired camera. Audio can be wired and video can be wireless or vice versa. This Tardis model is 15mm wider than the average package of cigarettes (2.7 inches by 3.9 inches by 0.9 inches). Because the package is two cigarettes wider, a special cigarette package is required and comes with the set. Replacement packages

are available. The package is the same size as the seasonal 25-cigarette Marlboro 100's hard pack.

Another Tardis model is sold exclusively by Security Products International (SPI) in Pottstown, Pennsylvania, a company specializing in covert and overt video integration for law enforcement. (SPI also offers Tardis RE) Tardis SPI is the exact same size as a standard pack of 100's (2.1 inches by 3.7 inches by 0.9 inches). This model is smaller than the RF Tardis because it does not have a receiver for wireless surveillance. The Tardis SPI is designed specifically for on-the-body recording with wired inputs.

Erik Dzieiski, vice president of SPI for 13 years, agrees there's nothing else like Tardis that will fit in such a small space and do so many things, but he says wireless doesn't always work.

"Due to FCC regulations, you can't make wireless transmitters powerful enough to transmit through buildings, for example," he says. "But if you're wearing the hard drive recorder, you're guaranteed that you'll get what you want to record."

A third model, the audio/video (A/V) version, also for wired surveillance is functionally the same as Tardis SPI but half as thick (2.1 inches by 6 1/2 inches by 4 inches).

Modes of operation

All three Tardis models have four modes of operation:

- Normal "camcorder." Push a button once to record and again to pause; hold the button to shut down.
- Delayed start (up to 72-hour delay) like a VCR can be programmed to start recording at a specific time. It will record until you stop it or it runs out of memory. An investigator does not need to be present for recording to start.
- Event recorder with an alarm trigger. As an event recorder, the recorder starts recording 0.3 seconds after a selected external trigger goes off. Greenwold notes this is 10 times faster than the industry standard, 3.0 seconds. External alarms that can be plugged directly into Tardis include an IR motion detector and a "pixel alarm." Any type of switch closure will work as an alarm.
- Quasi time lapse with user set-table durations. Recording time can be 5 seconds up to a half hour and the recorder can be turned off for 5 seconds to an hour at an interval. This saves the battery and extends the recording time for events that do not require continuous monitoring. In fact, the recording can last for days.

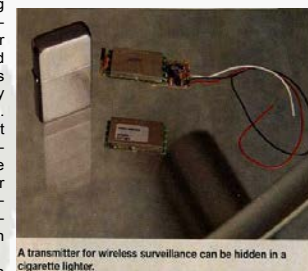
All four modes of operation are set up by the investigator using a GUI interface. This information is stored on the same hard drive as the video. After everything is set up within Tardis, the user can determine if Tardis is following its expected operation by looking at an LED light with three colors that might be on constantly or blinking slow or fast. In all, the light gives nine different indicators, making an easy language for understanding and monitoring Tardis' operations.

The battery that powers Tardis is an internal lithium ion battery. Before portable operation, (he battery requires charging, which can't take up to 3 hours. While charging and connected to the A/C supply. Tardis can be used.

What's next?
The design for Tardis is patent pending. The system also will be available in other covert packages including a clipboard, so an investigator can record everything in view While walking around and inspecting an operation. Any feature changes within Tardis likely will be made without hardware changes, Greenwold says, noting typically changes can be made via a disk or file transfer.

With regard to the hardware, Greenwold does not foresee the PCMCIA card slot disappearing anytime soon. "It may not be long before the drive will go to solid state memory, but the PCMCIA form factor is too useful to go away too quickly," he says. "The hard drive capacity will increase and so with it. The length of recording."

Tardis is a name chosen after the Tardis of Dr. Who fame. It was bigger on the inside than on the outside. Tardis is the first of four pieces of equipment Greenwold designed to handle most of the circumstances investigators encounter while in the field. All of the equipment will easily fit into a briefcase. When asked what the other three pieces will be, Greenwold described them generically as the environmental monitoring system, the remote viewing system and the "where are you?" system. While the pieces are designed to complement each other, they also will be able to stand on their own. Until then, if you are in need of a new digital recorder, you might want to check out Tardis. You'll probably find yourself saying, "Holy smokes." •



A transmitter for wireless surveillance can be hidden in a cigarette lighter.