



## **Bryan Neumeister**

IEEE, IPVM, ABRE, DLA, AES, SAM, CAGE, ASCAP

Court Certified: Military, Federal, State, Civil US District Court, Department of Justice,

US Grand Jury, State, Civil & Aviation Audio, Video & Photographic Forensic Expert

39 EMMY AWARDS for Technical Excellence

39+ Years Professional Experience

USAForensic, Ilc. Court Certified Audio, Video, Computer, Cell Phone & Cell Tower Forensic Experts.

(602) 740-6128 : 44 W. Monroe St. 33<sup>rd</sup> floor, Phoenix, Az. 85003

[www.USAForensic.com](http://www.USAForensic.com)

United States District Courts: Contracted Technical Expert

US Department of Justice: Contracted Technical Expert

Defense, Law Enforcement and Government Agencies.

DOD United States ARMY/NAVY - (SAMS Forensic contract with C.I.D.)

Special Prosecutor's Office on Corruption - P.A.N.E.L. - US & Puerto Rico

Audio Engineering Society- Member & Lecturer

DLA- DARPA: Defense Advanced Research Projects Agency (classified)

Institute of Electrical and Electronics Engineers – Member

Technical work in 23 countries

Recipient of 12 individual and 39 total EMMY AWARDS – National Association of Television Arts & Sciences for Technical Excellence

Gold at both the Cannes (Golden Lion) & Calgary film festivals for audio.

### **Legal & Technical:**

39+ Years Professional Full-time Audio & Video Experience

Professional Audio & Video Enhancement,

Computer Drive Recovery,

Cell Phone Forensics – Tower Analysis

Federal & State Government Agencies Computer Drive Recovery

DLA, DOE, DARPA: Defense Advanced Research Projects Agency (classified)

Law Enforcement Agencies, National, State & Local

8 Years Search & Helicopter Rescue (MCSO-DPS- Arizona)

Worked Internal Affairs cases for Phoenix Police Department & The AZ Department of Public Safety.

US Military – Army, Navy, Air Force, Marines & Coast Guard (SAM contract)

Los Angeles District Attorney's Office -NELOS

Department of Defense (classified & non-classified)

Beta Tester for Various Forensic Systems Manufacturers

United States District Court system: Forensic Consultant

United States Grand Jury system: Forensic Consultant

U.S. Department of Justice: Forensic Consultant- Audio forensic work

OPDS and Office of the Public Defender: Vendor number

Work with US Army CID Prosecutors Office & Maricopa County Prosecutors Office

Phoenix PD Homicide - Mesa PD Homicide- Case Video & Audio Evidence Enhancement

Work with various Innocence Projects - Nation wide

10 Years with NBC Television - Technical Video / Audio

Federal, State, Aviation and Civil Law cases - Court Certified Technical Expert

2 State of the Art Facilities. Over 75 custom Computers & Processors

State of the Art HD Video and Audio Gear.

Gear and Software Upgraded Daily

3D Sonographs, Spectrographs, Spectral 3D -HD Video & 192kHz - 64-bit Audio

Expert Cell Phone Analysis (Oxygen, Cellebrite, Secure-View): Towers, Transmitters, Phones & Software

D.O.E. Military Forensic High-Speed Video Expert

Photo Enhancement using Clear-ID, Pixel Stacking & Frame averaging etc.

ACLU, Innocence Project cases

**Graduated Pi Sigma Alpha- California State University Northridge - 1980 (Political Science, emphasis on Journalism)**  
**Have worked in 23 Countries as a Technical Expert**  
**Published Nationally**

**Over 200+ Forensic Cases in the past 36 months:**

Non-Military court cases include: Federal, US District, Grand Jury, RICO, Homicide, Murder for Hire, Fraud, Robbery, Armed Robbery, Assault with a Deadly Weapon, Arson, Kidnapping, Bank Robbery, DUI, DWI, Civil Cases...etc. Currently working over a dozen Homicide and Capital cases nationwide. For Defense, Prosecution, Civil and Insurance carriers.

**Large Cases (Small Sample):**

**United States v. YN2 Charmaine K. March- (Arson) Federal Military Court Martial Retained by the Department of Defense (in 2020)** to debunk "Police Cell Tower Tracking Techniques". Daubert hearing determined the Practice was *not a Science* and was *inadmissible*, as it did not meet Daubert standards in Federal or US Military Court.

**State of Texas v. Fredrick Lee - (Capital Murder) - Retained by Defense** as Surveillance Video Expert: *V: Not Guilty*

**State of Arizona v. Steven Jones (NAU) – Video Expert for Defense – State’s scene measurement & reenactment video** ruled inadmissible due to scientific inaccuracy depicting the scene and possible bias.

**State of Arizona v. Keshawn Green (1<sup>st</sup> degree murder) - Retained by the Prosecution** as Surveillance Video Expert: *V: Guilty*

**US Government v U-Haul Philadelphia – Retained by Defense** as Surveillance Video Expert: *V: Settled*

**US Grand Jury Cleveland, Ohio: Hope Steffi - Retained as Surveillance Video Expert: V. Civil large settlement**

**Government of India: Sri Nithyananda Swami - Retained by Defense** as Video Expert: *V. Not Guilty*

**LA District Attorney’s Office - USAForensic retained by Prosecution** as Cell Tower Experts: *V. Guilty*

**US Government v. Charles Keating - In Trial, Retained by Defense** as Video Expert: *V. Not Guilty*

**United Kingdom (London, Barrister) V. Tyrone Williams - Retained as Audio Expert: Civil Settlement**

**State of Arizona v. Michael Allen Voden- Retained by the Prosecution** as Audio Expert: *V. Guilty*

**US Government v. Charles Keating III - In Trial, Retained by Defense** as Aerial Video Expert: *V. Not Guilty*

**Scaffide v. Lincoln County Wyoming- Retained by Government** as Surveillance Video Expert: *V. Not Guilty*

**State of Arizona v. Jeffery Martinson - Retained by Defense** as Video Expert

**City of Phoenix v. Copeland: retained by City** as Cell Tower Experts: *V Civil, favorable settlement*

**State of Montana v. Daniel Pallet- Retained by Defense** as Surveillance Video Expert: *V. Dismissed with Prejudice*

**State of Arizona v. Pedro Barraza – Retained by Defense** as Surveillance Video chain-of-custody Expert: *V. Not Guilty*

**State of Arizona v. Alan Champagne (1<sup>st</sup> Degree Murder) - Retained by the Prosecution** as Surveillance Video Expert: *V. Guilty*

**State of Arizona v. Jodi Arias – Penalty Phase – Defense** Computer Expert - *"During the first trial in 2013 and earlier in this trial, Mesa police experts testified that there was no porn and or viruses on the computer. Martinez had used that testimony to impeach Arias' claims that there were both, and it furthered his portrayal of Arias as a liar. But defense experts subsequently found porn and the viruses associated with the device. Mesa police have since admitted it was there all along."* –Gannett

**Precedent Setting Cases:**

**United States v. YN2 Charmaine K. March- (Arson) Federal Military Court Martial Retained by the Department of Defense (in 2020)** to debunk "Police Cell Tower Tracking techniques" - Tower Tracking was ruled inadmissible in trial as "a practice, rather than actual science". In a Daubert hearing the only use granted by the Federal Court was that the Prosecution’s expert could say the phone connected in either the East or West coast of the United States. *The Judge had a technical background.* Not Guilty

**State of Arizona v. Steven Jones (referred to in the media as the NAU Shooter) – Video Expert for Defense – State’s scene measurement & reenactment video** ruled inadmissible due to possible bias and scientific inaccuracy depicting the scene. Charge reduced from initial 1<sup>st</sup> degree Murder to Manslaughter.

**US v. Daniel Scott Pallett, CR 18-11-M-DLC** According to the federal rules of evidence 902-13/14 there must be metadata (hash values) connecting the submitted files presented to the original data. Since the original data was never presented and the original files never Hashed- there was a chain of custody issue. The Case was dismissed with prejudice Missoula, Montana on exactly those Daubert grounds. (Attorney Nick Kirby Brooke)

**State of AZ v. Pedro Barraza CR2016-002708** The judge dismissed several of the charges lodged against the defendant, as police could not authenticate the video which was the strongest evidence they had against Barraza. Proper procedures, protocols were not followed when they obtained it, the video was not allowed into evidence. Not guilty verdicts for four defendants. (Attorney Marcus Finefrock)

**State of AZ v. William James Hartwell** CR2015-001482 When asked to preclude video in this trial, the judge (Sheri Stephens) ruled that because the video on a hard drive had been simply viewed without a write-blocker, the dates-last-modified were changed and the video wasn't valid in court. (Attorney Rick Poster)

### **Books**

- "**Earthbound Misfit**" (Helicopter Rescue, TV Helicopters, Medivac & work with Law Enforcement agencies) 591 pages - *senior contributing author & consultant.*
- "**The Secrets of the Blue Oyster Cult**" - Bryan Neumeister discussed as Blue Oyster Cult musician & composer on "*Curse of the Hidden Mirror*" & "*Heaven Forbid*" Albums.
- "**After You're Dead**" -Featured as Forensic expert *character*, "Bry", in #1 bestselling series of Crime/Fiction books by author Cary Allen Stone.
- "**Career of Evil**" – **Author J.K. Rowling** (Harry Potter) - Lyrics used in book from Blue Oyster Cult album I co-wrote songs on.
- "**SEEDS, The Journey Begins**" – Science Fiction. Character likeness and full name used in book as a scientist. -Autor #1 bestselling Amazon author Cary Allen Stone. 2019
- "**SEEDS, The Journey Continues**" – Science Fiction. Character likeness and full name used in book as a scientist. -Autor #1 bestselling Amazon author Cary Allen Stone. 2020

### **National News Media: Forensic Analyst:**

**FOX Business Network:** Featured Forensic Expert 2018

**CNN:** Advisory Video Expert

**The Science Channel:** Six 1-hour Episodes on Video & Audio Forensics 2018

**Universal Studios/BBC & MSNBC:** Video Forensic Expert 2017: ***Real, Fake or Unknown*** TV series

Six 1-hour episodes of TV series analyzing viral videos with unknown metadata

**CNN: Jodi Arias:** Audio & Photographic Forensic Expert (in Trial testimony)

**FOX News: Boston Bombings:** Forensic Surveillance Expert (analyst)

**CNN: Trayvon Martin / Zimmerman:** Audio Forensic Expert (analyst)

**NBC/Gannett:** Forensic Surveillance Expert 2019

### **Publications:**

**Published Nationally**

**The Legal Investigator Magazine- Surveillance Systems - TV vs. Reality**

**High Tech, High Stakes Published in Expert Ease - National Forensic Publication.**

**Consultant to CPU Magazine as a Forensic Audio and Video Expert on Hardware and Software.**

**Featured by NEAT Video in online publication & mailer re forensic video clarification.**

### **Lectures:**

**2019 State Bar of Arizona (CLE)**

*Latest in forensic (beta) technology and what can now be done forensically with electronic data*

**2018 Audio Engineering Society:**

*Metadata and chain of custody of files: dithering / file conversion*

**2018 CLA Conference:**

*Digital Forensics (Facility) Cell phones, Towers, Metadata, Photos, COmputers Audio & Video Forensic*

**2018 AACJ Annual Attorney Winter Conference (Facility)**

*Digital forensics: Audio, Video, Social Media, Cell Phones, Towers, Computers & Photography*

**2107 Audio Engineering Society:**

*Cellphone forensic audio re metadata, chain of custody, forensic acquisition of audio*

**2016 Federal Habeas Conference**

*Cellphone and Tower forensics*

**2016 Audio Engineering Society:**

**Topics:** *Multi-Pathing of Transmitted RF Signals, Forensic audio*

**2015 Inns of Court:**

**Topics:** *Cell Phone metadata, Audio & Video Forensics*

### **2015 Audio Engineering Society:**

*Topics: Pareidolia, Dithering, Forensic Audio & NyQuist Theorem*

### **2014 Audio Engineering Society & Conservatory of Recording Arts**

*Topics: NyQuist Theorem, Sample Dithering & Forensic Audio*

### **Opening of the 2013 APDA (Arizona Public Defenders Conference)**

*Topics: Audio, Video, Photographic & Surveillance Forensics*

**APDA Faculty Member - 1,550+ Attorneys attended conference (June 26-28, 2013)**

### **Television: National & International Broadcast:**

Recipient of **39 EMMY AWARDS** from The National Association of Television Arts and Sciences for Technical Excellence  
40+ additional National & International Awards.

Winner CANNES Film Festival (Gold) (Technical Audio Excellence)

Winner CALGARY Film Festival (Gold) (Technical Audio Excellence)

Worked for NPR & NBC Television News stations for 12+ Years.

Phi Sigma Alpha - National Political Science Honor Society – Lifetime Member.

Member: NAB, BMI, ASCAP, AES, ERA, NATAS

Winner: Film Advisory Board Gold Medal, Parents Choice Award

### **Film & Television Clients:**

NBC - ABC - CBS - PBS - BBC - FOX - DREAMWORKS - SCREEN GEMS FILMS - TOUCHSTONE FILMS - LUCASFILMS LTD. - LEVIS - COCA COLA - AMBLIN ENTERTAINMENT - PEPSI - VOLKSWAGEN - TOYOTA - CHEVROLET - NISSAN - AMERICAN EXPRESS - UNIVERSAL PICTURES - LORIMAR - TRIMARK FILMS - TRIMARK ENTERTAINMENT - GANNETT - A&E - DISCOVERY CHANNEL - FOX - DIAL SOAP - COORS BEER - BUDWEISER - MTV - PIZZA HUT - MOTOROLA - UNION CARBIDE - DISNEY - INTEL - MICROSOFT - VISA - MASTERCARD - ARMY - NAVY - AIR FORCE - MARINES - UNITED AIRLINES - CONTINENTAL AIRLINES - PARTNERS FILMS CANADA - PRTV - NATIONAL MEDIA - MOMENTUM FILMS – DFXTV - LOTTO/LOTTERY - GREYSTONE PICTURES - HISTORY CHANNEL – DISCOVERY CHANNEL - WARNER BROTHERS - DAIRY QUEEN - AT&T – MLB - NBA - NFL - SUPER BOWL XXX - ESPN - MAJOR LEAGUE BASEBALL – McDonald's - MCI - HARLEY DAVIDSON - STOUFFER'S- CARQUEST - MD HELICOPTERS - BOEING – “FUTUREWEAPONS”, “MYTHBUSTERS” {THE LUXOR - FLAMINGO - STRATOSPHERE - CESAR'S PALACE - MGM GRAND - NYNY - The HARD ROCK...CASINOS all in LAS VEGAS} - NUMEROUS ADVERTISING AGENCIES...

### **Certified Cell Phone Forensics:**

Latest Cellebrite Ultimate 4PC, Secure-View Forensics, Oxygen Detective & Analyst, APEX Laboratory and Field systems

2019 Cellebrite Cloud Analyzer. Oxygen Detective Cloud Jet Extractor (Beta-Tester)

SV Striker box, PassWare Forensic, EnCase, etc.

D.A.R.T Tower Tracking and signal software- latest versions.

Official Beta-Tester for Oxygen Detective Phone & Tower forensic programs

Certified Oxygen Forensic Analyst & Detective cell phone analyst 14,000+ phones (PATC)

PassWare Complete Forensic Decryption of 280+ encryption methods using 16 core liquid cooled systems

Recovery of deleted apps and data from over 14,000 cell phones.

All cell phone communications Apps, iCloud, iOS9, Android Lollipop, Windows OS etc. Password decryption & recovery.

DCode, Plist, SQLite Browser, Opanda, Kies, EnCase Extractor, EnCase readers, FTK, Stellar Phoenix Professional data recovery

Six fly-pack MSI 8/12 Core multi SSD Field-Units for extraction at any location

### **CELL TOWERS & CDR: NOTE: plotting is a practice and not a science**

In a Daubert Hearing in US Federal Court Norfolk VA, (2020) Hired by Department of Defense to debunk “cell tower tracking: Police Tower Tracking ruled inadmissible in US Federal and Military court – as a practice but NOT a Science. Does not meet FRE 702 standards of evidence.

D.A.R.T & 2020 Oxygen Detective Plotting

2016- Call Data Records & Towers (Lucent, Samsung, Nortel) PATC certification

AT&T, Verizon, Sprint, T-Mobile, Cricket, US Cellular, Tracfone, MetroPCS and subsidiaries...

Call Records Analysis – Switching analysis. Cloud, SMS, MMS E-Mail.

TOWER Dumps: Lucent, Samsung, Motorola, Ericsson etc. PATC 2016

Cellebrite Cloud analyzer. Oxygen Detective Jet

GPS, NELOS, WiFi and Blue tooth tracking and E911-FCC mandated data location logs.

D.A.R.T. advanced and HTCI Mapping to verify if a call did hit a specific Tower Switcher.

Paperwork for legal requests for all of the above available on [www.USAForensic.com](http://www.USAForensic.com).

### Forensic Video & Surveillance Video Recovery/ Analysis

DME Forensics DVR Examiner, iNput-Ace, Omnivore, D-plex Pro Forensic, D-Tective, ClearID Forensics and numerous forensic systems with over 200 clarification plug-ins. 8K file handling

Latest computer and cell phone programs *such as FTK, Autopsy, Cellebrite, Apex, Secure-view, Oxygen, EnCase...*

Beta Tester of Software & Hardware for leading Forensic Companies (Clear-ID, iZotope, DC8 Forensics etc)

Hard drive recovery for US Military (SAMs vendor) - Forensic drive analysis.

Recover damaged files, Deleted files, Changes in Registry & Meta-Data, Hash values, SHA2 etc

All Surveillance Systems as well as Computer Drives

Validate video pixel by pixel with iNPUT-ACE

Tampering or Keying detected.

Restore corrupted photographic or video files.

Photo Enhancement using Clear-ID, Pixel Stacking & Frame averaging etc.

Working with computers since 1977. 3 Field Extraction teams available.

Network analysis, Tor tracing, Brute force & PassWare decryption etc.

PassWare Forensic Decryption of 280+ encryption methods using 16 core liquid cooled systems

Determining how files got onto a computer

Validating dates of files/ changes to files via Sha2 HASH values.

### Computers

EnCase Ultimate, X-Ways, Autopsy, FTK and many other specialized tools:

PassWare Forensic decryption. Custom 36 core liquid cooled machines.

First code written in 1977 while attending Cal State University.

Recovery using Tableau write-blockers USB 3.0 T8-R2 & T35ES-R2 Tableau & DME forensic Imaging.

Beta tester of Software & Hardware for leading Forensic Companies (Clear-ID, iZotope, DC8 Forensics etc)

Hard drive recovery for US Military (SAMs vendor) - Forensic drive analysis.

Recover damaged files, deleted files, Changes in Registry & Meta-Data, Hash values

All Surveillance Systems as well as Computer Drives

Restore corrupted photographic files.

Photo Enhancement using Artificial Intelligence, Clear-ID, Pixel Stacking & Frame averaging etc.

Working with computers since 1977. 3 Field Extraction teams available.

Network analysis, Tor tracing, Brute force & PassWare decryption etc.

PassWare Forensic Decryption of 280+ encryption methods using 36 core liquid cooled systems

Determining how files got onto a computer

Validating dates of files/ changes to files via Sha2 HASH values.

Header Data verification

### Forensic Photographic work:

Photographic clarification, metadata validation

Lux, Luminance & RGB analysis

Film, Digital, thermal imaging and infra-red cameras

Clear ID Forensics, iNPUT-ACE, Omnivore, Deplex-Pro

Vectorscope, Waveform scope, Luminance and RGB scopes in Lap

Pixel data analysis / Frame & Field level analysis

Lens and lens-aberration analytics

Lens MM relations to chip size and format

Lens wide-angle distortions correction using metadata

Deleted or Damaged Photo data memory cards recovered

Cellphone camera metadata work.

Geo data verification

Dozens of forensic photo analytical plug-ins

Stills lifted from 8k video and clarified

All 17.5 x 11 -inch stills printed on heavy photo stock at 1200 PPI.

Studied from 1974-1979 with Dr Bill Wallner (co-inventor of infra-red photography)

Cameras from high-end Hasselblad thru Panavision down to GoPro

Ultra-High-speed camerawork with Phantom-V cameras

Cineflex & Cine-Alta.

Helicopter mounts 14,500 hours aerial cinematography

Have shot professionally in 23 countries

Complete 8K up-Res in lab.

8K, 10-bit calibrated video cards and monitors.

Pantone charting and color correction in field and lab

Lux and Luminance lighting measurement in accident or crime scene cases.

3-axis gyro-stabilized cameras

All available camera mounts for GoPro 4K cameras for accident and test work.

DOD and DOE military testing high speed and aerial photography.

FAA licensed 4K Drone operator

Testified numerous times on photographic issues in Federal, Criminal, civil Military and aviation cases.

Photo Work published internationally

### Field Cameras

For evidence gathering and accident recreation include Red & Cinealta 8K, Sony 4K & HD cameras, DJI Osmo, 3Axis stabilized 4k system, GoPro 4Ks all mounts and FAA Licensed 4k Drone. Fuji 3D Camera. Ultra-slow-mo Phantom Cameras available. Meralli stabilization and Re-SpeedR. Editing and all monitors are true 4k = 4086\*2160.

Thermal Imaging.

Thermal Video and still along with mixed format Thermal.

Emmy Award winning crews for crime scene Recreation.

### Professional Sound & Music:

Over 20,000 voice tracks professionally worked with since 1980

Federal, US District Court, State, US Military, Civil and Aviation cases to TV Network television, commercials, video games and films

Sonographs, Spectrographs and 3D Audio Decibel and Frequency Mapping

iZotope RX professional, 3D Spectral Audio, DC10 Forensics, Pro Tools, Plugins from Cedar,

Waves, iZotope, Plugin-Alliance BX-Series, Bauer, SSL, NovelTech, BlueCat, SPL, FabFilters, Sony, Sequoia & Many others

Over 200 forensic plugins and programs running on 16 core liquid cooled computers

Federal and State voice comparison cases

Set Daubert standard for voice comparison in Arizona

Phonetic breakdown of spoken words on spectrograph.

Sonographs, Spectrographs and 3D Spectral audio graphs printed and embedded in forensic reports.

Human Voice separated from background noises and ambience

Tampering detection

Metadata analysis

NyQuist Theorem analysis

Edit detection

Dithering analysis

Re-sampling analysis

Audio background continuity

Sine wave detection or embedded frequency (agency)

AC power ground loop & harmonics removal.

Background noise removal.

Phase cancelation and removal of music from dialog

Voice clarification, harmonic enhancement for muffled audio

Removal of reverb (jail hallways or lecture halls etc)

Removal of mic thumps and clicks that can be misidentified as edits.

Transfer of tape to HQ digital medium: cassette, micro cassette, reel to reel

Police radios split tracked

32 bit audio running in 64 bit systems

192 kHz field units.

Conversion of any audio codec to another PROPERLY with correct dithering

Time coding of audio for clients down to thousandths of a second for easy reference.

IEEE engineering standards

**Written & Recorded Music** with *Blue Oyster Cult*, 24,000,000 (24 Million) albums sold - Gold & Platinum records & *Credence Clear Water Revival* recording artist Tom Fogerty (Movie Score).

- Mixed & Engineered for numerous top recording acts; Jazz, Rock & Classical.
  - Written music for hundreds of commercials including music cuts for Super Bowl XXX
  - Written Music/SFX for 5 popular Video Games.
  - Worked "Live" sound as sound mixer for concerts with crowds up to 35,000. *Challenging live mixes like: Chick Corea, Return to Forever, Ronnie Laws, Gerald Wilson's 24 piece Big Band etc.*
  - Recently won another Emmy Award for best music on a Television series (Written & Performed).
- I have Mixed and Mastered hundreds of National, International & Regional Television Shows.

#### **Aerial Photography / Rescue / Surveillance :**

Over 14,000+ Flight Hours of Jet Helicopter Photography – Film, HD Video, Research, Surveillance, Search & Rescue for Law Enforcement & Wildlife Rescue - Civilian Military Contractor.

Currently: Advisory Partner & Photographer - 4:4:4 Professional Film & TV Helicopter (*SaberCat HD*)

Pilot received the Harmon Flight Trophy from President Reagan at the White house. The Trophy is currently on display in the Smithsonian Air and Space Museum.

#### **FAA Licensed: AERIAL 4K GPS-guided VIDEO DRONE**

FAA licensed 4K Video-drone, *Phantom Quadcopter*: Satellite-GPS controlled:

Owner & Operator); Mounted camera *GoPro Hero* 4K Black Edition

Thermal Imaging & Thermal Video Recording with image on image technology

Night Vision & Infra-Red

OSMO 3-axis stabilized 4k system, fully loaded.

#### **Forensic Counter-Surveillance:**

Radio Frequency Response 10MHz ~ 10GHz (20+ GHz if needed)

Analog, Digital, WiFi, Cellular GSM/GPRS/EDGE/3G/4G signals all will set off alarms.

Detection Frequencies: GSM 880-915MHz, CDMA 824-849MHz, WCDMA (1920-1980MHz), and DCS (1710-1785MHz)

Digital 'Burst' Signal Detect for all GSM/3G/4G Trackers/SMS(Text) detection

Series and Parallel transmitters

Automobile GPS transmitters

Transmitting GPS trackers (only when GPS device is transmitting signal location)

Devices on internet phone and IP phone

Detect & Prevent:

Wire telephone tapping

Laser tapping

Recordings of a voice recorder, tape, digital and parabolic reflector using white noise & sibilance generators

40HZ 100-watt sine-wave generators to eliminate laser recording from windows

Thermal Imaging & Thermal Video Recording with image on image technology

1080P Sony Night Vision Cameras & Infra-Red Lighting

OSMO 3-axis stabilized 4k system

#### **Weapons: Classified & Non-Classified:**

-Worked many homicide cases involving gunfire sound analysis, frequency, location & Triangulated acoustics.

-Worked with numerous surveillance videos to enhance shooting scenes for law enforcement and attorneys.

-Gunshots analyzed, compared & enhanced from: cell phones, land lines, surveillance equipment, 2-way communication, Police Duplex & Simplex, etc.

-Worked numerous cases requiring gunfire video enhancement from surveillance systems, cell phones and various recording devices.

-Have access to many renown civilian & military firearms experts for testimony as needed.

-Over 2-million rounds fired for high speed filming and forensic testing over 33 years. Work & have worked with -US Navy Seal Teams 1, 2 & 6, SOCOM, DEVGRU, 160th Night Stalkers. US Army Sniper teams. DOD & DOE.

-Additionally, work with many US Government retained Military contractors.

-I currently have US Military SAMS / DUNS contract.

- Worked with numerous SWAT and TOU teams in actual field operations.
  - Worked with LAPD, w/ Krav Maga training.
  - MSCO Helicopter Rappel Trainer (1980s Tac-Ops-Unit) - MSCO Helicopter Search & Rescue = SKY12 & DPS
  - Worked with Springfield Armory testing the initial launch of the entire XD Pistol line. 9 mm, .40, .357, .45
  - Work often with DillonAero on the M-134 Mini-gun project (over 20 years working together).
  - Analyze Muzzle flash and sound signature of McMillan Sniper rifles for US Army Snipers (over 10 years of work together).
  - Air to Ground target acquisition and aerial sniper training documentation. Thousands of hours of aerial law enforcement, search & rescue & air to ground gunship work.
  - Assigned to USS CVN70 Carl Vinson and Helicopter-Carrier USS New Orleans as civilian videographer.
  - Have been a "go to" guy for live Weapons Photography & Sound Recording for The Military Channel, History Channel, MythBusters, Future Weapons, Discovery Channel, National Geographic, BBC and many others.
  - Produced one of the largest selling automatic weapons DVDs ever made, "Firestorm in the Desert" &
  - Produced one of the largest selling handgun training DVDs of all time with Rob Leatham, "Shooter Ready
- Civilian Technical Advisor on the board of CowTown Range & Studios, which is an extremely active 88 acre Training facility for SOCOM, Swat Teams, Navy Seal Teams, DEVGRU, Homeland Security and many Special Operations teams. CowTown Range is currently under DOD and various Agency contracts for range work, tactical training and weapons development.

**Weapon recording analysis for cases includes**

- Various rounds recorded over surveillance systems, cell phones, 4k, HD, SD and high speed Phantom video cameras.
- Diverse types of pressure, loads, powders, barrel length and calibers recorded for analysis.
- Cell phone cases include NyQuist Theorem frequencies relating to cell Phone FQ range, Sample Rate and Bit depth of recordings
- Cell phone line noise and background audio of conversations recovered from 911 calls.
- Dithering artifacts created during sample rate conversions.
- Dithering harmonics relating to audio captured by Cellebrite or Oxygen Forensics, when transferred to 44.1-16 bit for distribution.
- Cell call transmission, multi-pathing of signal, tower horn tracking v. switcher tracking, topographical anomalies of transmissions, transmission artifacts
- Phase cancellation of recordings due to microphone set ups.
- Distances of cell phone to firearm (FARO 130 system)
- Shootings captured by police wire or boomerang unit
- Sonographs and spectrographs along with 3D Spectral recording to narrow down gunshots to 1,000ths of a second.
- Shooting weapons in range shoot houses or gun ranges recorded over cell phones.
- Shots recorded over cell phones in cars, houses, open acoustic spaces
- Ambiance and acoustics graphed and measured of gunshots on surveillance and cell phone

**USA FORENSIC: AUDIO & VIDEO FORENSIC LABS**  
**USA Forensic, Ilc. (38 Years Professional Experience)**  
**Certified Audio & Video Forensic Experts: Federal, Military, State, Civil & Aviation**  
**United States District Courts - U.S. Grand Jury- DOJ, - DOE (Classified-Unclassified)**  
**IEEE, IPVM, ABRE, DLA, AES, SAM, CAGE, ASCAP**







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