

Timothy A. Carty

Professional Competence:

During (37) years of engineering security and surveillance systems, I have built/secured (19) Federal and State Prison Facilities, Secured (16) B2 Stealth Bombers Hangers at a military base, (1) nuclear facility and (3) national railroad facilities. Designed & Built a Nationwide Satellite, Cellular and VOIP Network for the South American Country of Guyana. I have also designed the first “Operator-less Egg Breaking Machine.” I hold (22) patents in the medical and fire protective fields with (3) additional pending patents. I am a State Certified as a Law Enforcement Officer for over (14) years. I Co-Founded a wireless and dial-up Internet service that had over 43,000 customers. Appointed as “Honorary Chairman of the National Business Advisory Council to President Bush 2003”, with a reception dinner with President Bush – May 2003. My Company was the Cover Story for “Access Control Magazine – May 1994.”

Professional experience:

EMP Shield, LLC 2017 – PRESENT

Founder and patent holder for the Intellectual Property for a family of surge protection devices that exceed the US Military requirements for EMP protection. In this capacity I have designed, engineered and lead the testing & Certification each of the family of surge protection devices.

- Designed each EMP Shield circuit board, wiring scheme, housing, and IP Rating requirements;
- Specified and ordered all manufacturing equipment;
- Developed all manufacturing processes;
- Specified and procured all manufacturing facility upgrades for Electrostatic Discharge (ESD) requirements;
- Assembled the initial Board of Directors and management team for the company;
- Chairman of the initial Board of Directors;
- Manager of the Engineering Department for the company.

EVOLIGY, INC / ADVANCED INTEGRATION / NET ENTERPRISES, INC. 1993 – PRESENT - President / Owner

- Design & Built a complete National Cellular & Wireless Internet Network for the South American Country of Guyana. This included the following systems:
 - Satellite Earth Stations
 - Point to Multi-Point Wireless Network
 - Voice Over Internet Protocol (VOIP)
 - Voice Over Satellite (VOS)
 - Fixed Wireless Networks
 - Mobile Wireless Networks
 - Cellular / PCS Wireless Network
 - Complete coverage of the complete Country

- Design advanced integrated prison and military security systems including:
 - Card Access Systems
 - Bio-Metrics Access Systems
 - Fiber Optic Controls Systems
 - Touchscreen Control / Security System
 - Door & Gate Control Systems
 - Closed Circuit Television Systems (CCTV)
 - Satellite Antenna Television Systems (SATV)
 - Video Imaging Systems
- Integrating all of these systems into one complete working system.
- Designed and deployed the national security system network for a Santa Fe Railroad.
- National Cover Story – “Access Control Magazine” – May 1994
- Designed and Build OEM Water Conditioning and Treatment equipment:
 - Designed a Supercharged Water Frequency System for conditioning water for the AG/Farm Business with a flow rate of over than 2,000 GPM.
 - Build on an OEM basis – High Impact Oxygen System (HIOS) for a Water Treatment System Company based in Portland Oregon.
 - These products are sold in USA, Mexico, Canada, South America, African and several other Countries around the World.
- Designed the first fully automated eggs breaking machine controls, which includes:
 - High Definition Inspection Video System
 - Design and programming of Touchscreen Control System
 - Design, programming of PLC’s to fully control the complete operation.
 - Capturing and storing a picture of each egg processed (Over 300,000 Per Shift)
 - Remote monitoring and maintenance automated control system.
 - Remote Management of Video/Pictures of each egg processed.
 - Remote data storage of data to data center.
- Honorary Chairman – “National Business Advisory Council – President Bush 2003” (Reception Dinner with President Bush – May 2003 / Washington DC)
- Designed and deployed the computer network for the Veterans Administration Attorney Generals office in Kansas City, MO.
- Engineered a high-speed Internet service for 45,000 apartment units in the North Mid-West for the 15th largest Real Estate Trust in America.
- Designed and deployed computer networks for Law Enforcement facility in Lebo, Kansas to connect to the National Crime Information Center (NCIC).
- Designed and deployed secure / encrypted wireless data networks for Law Enforcement covered territories for mobile data terminals in vehicles.
- Built and operates a Secure Computer Data Co-Location Center in Kansas.
- Worked with US State Department – Special Project – Guyana, South America

LEBO POLICE DEPARTMENT 2002 -2005

Part-Time Officer / KCJIS Computer – Technical Admin Contact (TAC) & Security Officer / Certified Sub-Machine Gun Armor and Range Master

- Technical Access Control (TAC) and Security Officer for the KCJIS, KBI & NCIC Computer Network for the Department.
- Contacted KBI and completed the paperwork and certifications for the Lebo Police Department to have its own direct connection to the KBI & NCIC Computer Network.

- Installed and setup the KCJIS, KBI & NCIC computer network at the Department Office.
- Issued all Security Access Tokens to Chief and other Officers.
- Trained and gave KCJIS Certification test to all officers.
- Installed a City Wide Mobile Wireless Data Network for connection to KCJIS, KBI & NCIC Networks.
- Equipment Officer – Installed all new custom equipment consoles, radios, and data terminals in Department Vehicles.
- Certified Colt Armor – M16, M4, 9mm Sub-Machine Guns
- Part-Time Officer – Patrolled the City of Lebo, Kansas.
- Firearms Range Master

PIXIUS COMMUNICATION, LLC. 1999 -2001

Chief Technology Officer / Co-Founder

- Responsible for the computer network design and security for 43,000 customers.
- Design and deploy a wireless network high speed Internet networks for a city of 300,000.
- Supervised the Network Operations Center (NOC).
- Designed and deployed a computer co-location facility.

DORNOCH MEDICAL SYSTEMS, INC. 1996 – 1998

Co-Founder / Vice President

- Chief engineer in the design of medical equipment for operating rooms in hospitals.
- Awarded (3) US Patents with (74) unique claims on a bio hazard “Liquid Waste Disposal and Canister Flushing System and Method”
- Supervised the manufacturing and injection molding of the canisters.
- Wrote the specifications and operations manuals for listing with Underwriters Laboratory (UL)
- Designed the circuit boards, microprocessor and microchip layout.
- Traveled throughout America and Japan installing the units.
- Awarded (3) US Patents for “Operating Room Medical Equipment”

MEDIA LINK CORPORATION 1992 – 1993

Vice President / Design

- Responsible for the network design of Touchscreen control systems for military and detention / prison facilities throughout the United States.
- Developed the operation systems and interface between systems.
- On site engineering of existing facilities that were in operation.

BLEVINS ELECTRIC, INC. 1987 – 1992

Vice President – Industrial / Security Divisions / Partner

- Responsible for (3) divisions within the company.
 - Security Division

- Energy Management Systems (EMS)
- Industrial Control Systems
- Licensed the company in (16) States as a Master Electrician.
- Supervised the out of state projects.
- Responsible for estimating, bidding, and project management.
- Supervised (150) electricians and labors
- Electronically automated the largest medical latex glove factory in North America.
- Built (19) Federal and State detention / prison facilities across the United States.
- Secured (16) B2 Stealth Bombers at a Mid-West Air force Base.

CARTY SECURITY & ELECTRONICS 1984 – 1987

Owner

- Responsible for the sales and installation of commercial security systems.
- Provided security systems to Banks, major department stores and residences.

TENNESSEE EASTMAN COMPANY 1979 – 1984

Electronic Trouble Shooter

- Trouble shooter for electronic controls in a 1,200 acres - chemical plant.
- Received my engineering degree through the company's educational program in association with East Tennessee State University.
- Team member – final checkout of the world largest coal de-gasification facility.

Education

- Tennessee School of Engineering, Kingsport, Tennessee 1980 – 1984
BS in Electrical Engineering

Professional Certifications & License (Past & Present):

- Certified Police Officer – Kansas Law Enforcement Training Center – (KLETC)
- Certified Police Officer – Sullivan County, Tennessee (Federal Accreditation Center)
- Virginia Emergency Medical Technician (EMT/IV Tech)
- Virginia Advanced Cardiac Technician
- National Registered Paramedic
- Advanced Open Water Scuba Diver
- Hazardous Materials Technician
- Advanced Fire Fighter
- Tennessee Electrical Contractor
- South Carolina Electrical Contractor
- Georgia Electrical Contractor
- Indiana Electrical Contractor
- Hawaii Security/Electrical Contractor

- West Virginia Electrical Contractor
- Topeka, Kansas Electrical Contractor
- Louisiana Security/Electrical Contractor
- Alabama Electrical Contractor
- Arkansas Electrical Contractor
- Ohio Electrical/Security Contractor

Issued U.S. and International Patents:

Australia = 1	Europe = 5	Japan = 1
Austria = 1	Germany = 3	USA = 6
Canada = 4	Hong Kong = 1	World = 1

- USA Patent #US 10,742,025 B2 / Published – 2020-08-11
(Method For Detecting and Isolating an Electromagnetic Pulse for Protection of a Monitored Structure)
- USA Patent #US 10,530,151 B2 / Published - 2020-01-07
(System and Method for Suppressing Electromagnetic Pulse – Induced Electrical System Surges)
- USA Patent #US5776260 A / Published - 1998-07-07
(Liquid Waste Disposal and Canister Flushing System and Method)
- World Patent #WO9848953 A1 / Published - 1998-11-05
(Liquid Waste Disposal and Canister Flushing System and Method)
- Canada Patent #CA2287917 A1 / Published - 1998-11-05
(Liquid Waste Disposal and Canister Flushing System and Method)
- Canada Patent #CA2424338 A1 / Published - 1998-11-05
(Liquid Waste Disposal and Canister Flushing System and Method)
- Australia Patent #AU9410398 A / Published - 1998-11-24
(Liquid Waste Disposal and Canister Flushing System and Method)
- USA Patent #US5901717 A / Published - 1999-05-11
(Liquid Waste Disposal and Canister Flushing System and Method)
- USA Patent #US5975096 A / Published - 1999-11-02
(Liquid Waste Disposal and Canister Flushing System and Method)
- Europe Patent #EP1047509 A1 / Published - 2000-11-02
(Liquid Waste Disposal and Canister Flushing System and Method)
- USA Patent #US6260507 B1 / Published - 2001-7-17
(Reflective Collar Attachment for Fire Hydrant)
- Japan Patent #JP2001522306T T / Published - 2001-11-13
(Liquid Waste Disposal and Canister Flushing System and Method)
- Europe Patent #EP1047509 A4 / Published - 2002-07-17
(Liquid Waste Disposal and Canister Flushing System and Method)
- Canada Patent #CA2287917 C / Published - 2003-06-03
(Liquid Waste Disposal and Canister Flushing System and Method)
- Europe Patent #EP1354641 A1 / Published - 2003-10-22
(Liquid Waste Disposal and Canister Flushing System and Method)
- Europe Patent #EP1047509 B1 / Published - 2004-02-25
(Liquid Waste Disposal and Canister Flushing System and Method)

- Austria Patent #AT260147T T / Published - 2004-03-15
(Liquid Waste Disposal and Canister Flushing System and Method)
- German Patent #DE69727841D D1 / Published - 2004-04-01
(Liquid Waste Disposal and Canister Flushing System and Method)
- German Patent #DE69727841T T2 / Published - 2004-12-16
(Liquid Waste Disposal and Canister Flushing System and Method)
- Hong Kong Patent #HK1032555 A1 / Published - 2004-12-24
(Liquid Waste Disposal and Canister Flushing System and Method)
- Canada Patent #CA2424338 C / Published - 2005-11-29
(Liquid Waste Disposal and Canister Flushing System and Method)
- Europe Patent #EP1354641 B1 / Published - 2006-06-14
(Liquid Waste Disposal and Canister Flushing System and Method)
- German Patent #DE69736141D D1 / Published - 2006-07-27
(Liquid Waste Disposal and Canister Flushing System and Method)

Law Enforcement Experience:

- Part-Time Officer and Reserve Officer – Lebo Police Department
Lebo, Kansas, July 2002 – Feb. 2005
- Reserve Deputy & (Past President) - Coffey County Sheriff's Department
Burlington, Kansas, Oct. 1998 - 2002
- Reserve Deputy - Sullivan County Sheriff's Department
Blountville, Tennessee, Sept. 1987 - Sept. 1994
- Reserve Officer - Dunbar Police Department
Dunbar, West Virginia, Jan. 1986 - Nov. 1986
- Reserve Officer - Bluff City Police Department
Bluff City, Tennessee, June 1983 - Oct. 1985
- Part-Time Officer and Reserve Officer – Lebo Police Department
Lebo, Kansas, 2002 – 2005
- Reserve Deputy & (Past President) - Coffey County Sheriff's Department
Burlington, Kansas, 1998 - 2002
- Reserve Deputy - Sullivan County Sheriff's Department
Blountville, Tennessee, 1987 - 1994
- Reserve Officer - Dunbar Police Department
Dunbar, West Virginia, 1986
- Reserve Officer - Bluff City Police Department
Bluff City, Tennessee, 1983 - 1985

Community & Professional Organizations:

- Cardiac Technician - Bristol Life Saving Crew
Bristol, Virginia, 1978 - 1982
- Cardiac Technician - Bluff City Rescue Squad
Bluff City Tennessee 1982 – 1987
- Fireman - Avoca Volunteer Fire Department
Bristol, Tennessee 1977 – 1986
- Member - American Society of Industrial Security (ASIS)
Kansas City, Missouri 1987 – 1999

- Member - American Jail Association (AJA)
Washington, DC. 1987 - 1999

Partial List of Security & Surveillance Projects:

CORRECTIONAL FACILITIES

- SULLIVAN COUNTY CORRECTIONAL FACILITY, Blountville, TN
- PIKE COUNTY CORRECTIONAL FACILITY, Pikeville, KY
- BURKE COUNTY CORRECTIONAL FACILITY, Waynesboro, GA
- UNION SPRINGS CORRECTIONS, Union Springs, AL
- SEVIER COUNTY CORRECTIONAL FACILITY, Sevierville, TN
- INDIAN RIVER PHASE II, Vero Beach, FL
- INDIAN RIVER PHASE III, Vero Beach, FL
- UNION COUNTY DETENTION FACILITY, El Dorado, AR
- JOHNSON COUNTY MINIMUM SECURITY PRISON, Mountain City, TN
- ETOWAH COUNTY CRIMINAL JUSTICE CENTER, Gadsden, AL
- METRO WEST PHASE IIIA, Dade County, FL
- METRO WEST PHASE IIIB, Dade County, FL
- RIDGELAND CORRECTIONAL FACILITY, Ridgeland, SC
- TURBEVILLE CORRECTIONAL INSTITUTION, Turbyville, SC
- PERRYVILLE PRISON PHASE II, Goodyear, AZ
- FLORENCE SUPER MAX PRISON, Canyon City, CO
- EYMAN PRISON, Eyman, AZ
- TURNEY CENTER, Only, TN
- CHILD ADVOCACY CENTER, Blountville, TN

AUTOMOTIVE FACILITIES

- SANTA FE/GENERAL MOTORS, San Bernardino, CA.
- SANTA FE/GENERAL MOTORS, Oklahoma City, OK.
- SANTA FE/FORD MOTORS, El Mirage, AZ.

NUCLEAR FACILITIES

- NUCLEAR FUELS, Erwin, TN

MILITARY FACILITIES

- WHITEMAN AIR FORCE BASE, Knob Knoster, MO

UNIVERSITIES

- UNIVERSITY OF TENNESSEE, Knoxville, Tennessee
(Campus wide Security System)