

PROFESSIONAL QUALIFICATIONS

PERSONAL DATA

Ira Wiesenfeld, P. E.

President and Principal Engineer: IWA Technical Services, Inc.

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EDUCATION

Southern Methodist University - Bachelor of Science, Electrical Engineering, (BSEE)

Motorola Executive Development Management Program (MBA Equivalent)

LICENSES AND ORGANIZATIONS

Registered Professional Engineer – Texas (License #63020), (Firm License #F16945)

FCC Second Class Radiotelephone Operators License 1966-1968.

FCC First Class Radiotelephone Operators License, 1968-1985.

FCC General Radiotelephone Operators License (GROL), 1985-Present.

Wrote 25% of current FCC GROL test.

FCC Amateur Radio Extra Class license WA5GXP issued 1963.

Valid U.S. Passport

Institute of Electrical and Electronic Engineers (IEEE) – Life Senior Member

Master Specialty (RF) Certified Electronics Technician – Electronics Technicians Association – International

Board of Directors (ETA-International) October 2008 –present. Currently hold position

Vice Chairman. Previous past Chairman of the Board 2014, 2016-2108

Chairman: 2021-2022

Certified Administrator – ETA International – 2008 to present

Associated Public Safety Communications Officers – Commercial Member

Enterprise Wireless Alliance – Member

National Fire Protection Association – Subject Matter Expert – Emergency Radio Communications Systems

EXPERIENCE

MARCH 1982 TO PRESENT - INDEPENDENT TECHNICAL CONSULTANT AND CONSULTING ENGINEER.

As an independent consultant, I have worked on many various projects over the period of years that I have been self-employed. I have hundreds of satisfied clients all over the United States.

Some of the specific projects that I have worked on in the recent time have included:

- US Department of Veteran Affairs – Engineer, Furnish, and Install new, NTIA Narrowband radio paging system for VA hospitals in Wichita, KS; Topeka, KS; Leavenworth, KS; Kansas City, MO; Columbia, MO; St. Louis, MO; Poplar Bluff, MO; Marion, IL; Chicago, IL, Omaha, NE; Lincoln, NE; Sioux Falls, SD; Hot Springs, SD; Fort Meade, SD; Fargo, ND; Minneapolis, MN; St. Cloud, MN; Des Moines, IA; Iowa City, IA; and Evansville, IN.
- US Department of Veteran Affairs – Engineer, Furnish, and Install new NTIA narrowband radio system for VA Medical Center in New Orleans, LA that includes nurse call, web access, telephone trunks, and integrates with the building distributed antenna system (DAS).

- Jo Daviess County, Illinois – Designed county wide radio system for all public safety agencies in Jo Daviess County, including 8 site simulcast radio paging system.
- Grant County, Wisconsin – Designed wide area voting radio system for large geographical area where normal single site radio system was not adequately covering jurisdiction. This included sheriff and fire radio channels, with expansion plans for all public safety agencies in county.
- Designed Distributed Antenna System two-way radio system to provide radio coverage to a large multi-story, multi-building campus for the security and engineering groups of a major commercial company's new 1.5 million square foot headquarters building.
- NASA – Designed and installed new radio paging system for NASA at the White Sands Testing Facility near Las Cruces New Mexico that covers the entire area for NASA, US Border Patrol, and the FAA for these agencies.
- US Navy SCRB – Designed RF part of the US Capitol Police P25 radio communications system for the National Capitol Region and US Capitol Police.
- University of Alabama at Birmingham – Design one of the largest BDA systems in the state of Alabama that covers 11 floors, 5 bands [VHF, UHF, 800 MHz trunking, 800 MHz cellular, and 900 MHz paging] and uses RF and Fiber Optic converters to distribute the signal throughout the building.
- Chester County Pennsylvania Sheriff's Department – Provided technical consulting to resolve issues with the county-wide radio paging system and correct issues with the courthouse Distributed Antenna System (DAS).
- City of Lewisville Texas – Installed Free Space Optics infrared communications link.
- City of Irving, Texas – FCC License work
- City of Lewisville, TX – Correct FCC license errors
- City of Lewisville, TX – NEXTEL Rebanding Project Manager
- University of Alabama at Birmingham (UAB) – Correct various problems with paging system (UHF and 900 MHz systems).
- UAB – Perform RF Safety survey per FCC and OSHA regulations.
- Union Parish Sheriff's Office – Design new radio communications system for Sheriff's radio dispatch system.
- US Air Force – Arnold Engineering Development Laboratory – Tennessee – Engineer, Furnish, and Install NTIA Narrowband radio paging system for base.
- Wadley Regional Medical Center, Texarkana, TX – Install new radio paging system for hospital paging system.
- Dominion Energy Corporation, Richmond, VA – Train communications technicians on radio load-shedding radio system and correct various problems with system.
- United States Navy, Naval Warfare Systems Design Group, Virginia Beach, VA – Install wide area radio paging system and make various visits for upgrades and training.
- Norbet Security, San Francisco, CA – Design radio paging system for use in new San Francisco City / County jail facility.
- Northampton County, NC, Jackson NC – Correct numerous problems in radio paging systems and radio dispatch systems used by the Sheriff, Fire, and EMS first responders.
- US Department of Veteran Affairs, Roseburg, OR – Engineer, Furnish, and Install radio paging system for VA hospital in Roseburg, OR.
- Orange County California Sheriff's Department, Orange, CA – Upgrade radio paging system for redundant operation, correct numerous problems with system, provide technician training, correct RF reliability problem, and provide training on Line Sweep Testing to radio technicians who maintain the various systems for Orange County.
- Dallas Area Rapid Transit, Dallas, TX – Provide training to radio technicians on Microwave maintenance, Telephony, Communications Service Monitors, and Line Sweep testing.
- St. Lukes Medical Center, Milwaukee, WI – Design and Install new, redundant radio paging system for the hospital and train the technicians who are responsible for the maintenance of the new system.

- QTV Plus Corporation – Dallas, TX – Design multi-site television system for the middle part of Nigeria, Africa.
- Vytex Corp, Vista, CA – Engineer and install multi-site radio paging system at the new, Hyundai plant in Montgomery, AL, including the FCC license for the facility for paging.
- WRR Broadcast Station, Dallas, TX – Perform RF signal analysis of field strength, and perform study to determine optimum location for move of transmitter location.
- MPower Communications, Houston, TX – Determine source of power problems in ATT Central Office and corrected it.
- Wireless Integrated Network Solutions, Orange, CA – Write online training program on using Frequency Domain Reflectometers.
- IPMobileNet, Santa Fe Springs, CA – Write customer service-training program for mobile data system technicians.
- AT&T Wireless, Charlotte, NC – Train cellular maintenance engineers and technicians on how to use Anritsu Site Master Frequency Domain Reflectometers test sets.
- Walt Disney World, Orlando, FL – Provide maintenance support on radio paging system.
- GTE, Thousand Oakes, CA – Engineer, Furnish, and Install wide area paging system, including the FCC licensing for the wide area Southern California satellite paging system.
- US Navy, Virginia Beach, VA – Design secure radio system for Top Secret radio communications system for classified unit.
- US Navy, Atlantic Underwater Test and Evaluation Center, Andros Bahamas – Engineer, Furnish, and Install new communications center for this base. This project took over 1400 hours to complete.
- Wrote training programs for communications technicians performing the following job functions:
 - Antenna Line Sweep Testing
 - Antenna System PIM Testing
 - RF Interference Testing and Mitigation
 - Distributed Antenna System Installation, Design, Maintenance, and Training
 - Applications of Communications Service Monitors
 - Microwave
 - Telephony
 - Radio installation best practices
 - Radio Paging Systems
 - RF Safety
 - Systematic Troubleshooting Best Practices
 - FCC General Telephone Radio Operators License

Some of my other clients over the years include:

- Southwestern Bell Telephone Company (SBC) now AT&T
- Anritsu
- Raytheon
- Texas Utilities
- American Electric Power
- City of Abilene, Texas
- City of Dallas, Texas
- Motorola, Inc.
- Glenayre
- CTI
- Ericsson
- Ameritech (AT&T)
- Bell Atlantic (Verizon)
- GTE (Verizon)
- US West (Quest)

- Pacific Bell (AT&T)
- Cellular One
- Ford Motor Company
- BellSouth (AT&T)
- Alcatel
- PageNet
- MobileComm
- Lucent Technologies
- ALLTEL
- Motorola Canada
- BATELCO (Bahama Telephone Company)
- City of Memphis, TN
- Dallas Area Rapid Transit
- Devon Energy Corporation
- Orange County (California) Sheriff's Department
- US Department of Veteran Affairs
- US Department of Interior
- US Air Force
- US Navy
- US Army
- California Amplifier
- CSC
- Southwest Regional Communications Center
- Aurora Healthcare (Wisconsin)
- Simplex Grinnell
- Texas Instruments
- Digital Paging Company
- Novacomm (Herrin, IL)
- Whitman County, Washington
- Northrup-Grumman
- EGG (US Army Chemical Weapons Depot)
- City of Mesa, AZ
- Maricopa County, AZ
- ICOM America
- T-Mobile
- Alvarion
- Creative Communications (Phoenix, AZ)
- Jo Daviess County, IL
- Calcasieu Parish 911 Board (Lake Charles, LA)
- Clearwire
- L-3 Communications
- Cassidian Communications (formerly EADS Plant/CML Communications)
- US Army Military Academy – West Point
- Collins Radio

Author of book *Wiring for Wireless Sites*. This book explains all facets of planning and installing a radio system at a site and explains the installation standards for the industry. Author of *General Communications Technician Level 1*, *General Communications Technician Level 2*, *Mobile Communications and Electronics Installer Level 1*, and *Radio Frequency Interference from A to Z* study guides for the Electronics Technicians Association – International (ETA-I).

Author of over 60 magazine articles on radio related technology and applications. (See www.Urgentcomm.com issues April 1, 2003; May 1, 2003; November 1, 2006 and November 1,

2007, March 2009, May 2009, June 2009, March 2010, April, 2010-present, Fire Chief Magazine January 2010).

Wrote the ETA certification programs for Line Antenna Sweeping, Passive Intermodulation, General Communications Technician Level 1, General Communications Technician Level 2, General Communications Technician Level 3, Mobile Communications and Electronics Installations, Radio Frequency Interference Mitigation, and Wireless Communications Maintenance Technicians.

I was responsible for the re-writing approximately 25% of the FCC General Radiotelephone Operator License test that was released July 1, 2009. This endeavor was conducted through the Electronics Technicians Association, whose headquarters are in Greencastle, Indiana.

Our firm, IWA Technical Services, Inc., is considered one of the top consulting firms in the radio business in the US. (see Mission Critical Magazine, July 2016 issue [www.mccmag.com, Page 24])

PRIOR EXPERIENCE BEFORE 1982 INCLUDES:

APRIL 2000 TO OCTOBER 2000 – STOCKTON TELECOM, INC. DALLAS, TX - DETAIL DESIGN ENGINEER. (Telephone Company Fiber Optic Transmission Systems, SONET, DS-0, DS-1, DS-3, and Power Systems.) Assign space allocations, review engineering equipment orders, design and engineer all aspects of system, select ALL installation materials, write job specifications, determine cabling requirements, order documents, update floor plans, and create detail drawings showing the as-built information using CAD and Excel per AT&T standards.

1977 TO 1983 - CONSULTANT FOR SOUTHWEST FILM LABORATORY INC. DALLAS, TEXAS. Repair of Color Film Analyzers, high-speed film duplicating machines, and design and repair of film processing machine control systems (Servo systems, light controllers, AC and DC drive systems, comparators, IR sensors, custom counters and interfaces.) Design and construction of world's first microprocessor based special effects and color correction data system for the motion picture industry.

1972 TO 1982 - MOTOROLA COMMUNICATIONS AND ELECTRONICS, INC. District Manager of Field Technical Representatives. Duties included field service work and supervision of other FCC licensed Field Technical Representatives. This department was responsible for Mobile Telephone, Common Carrier Paging, and Microwave system installation, maintenance, repair, field engineering, design, evaluation and recommendation of engineering requirements. Departmental responsibilities also included Cellular site selection and procurement of all Cellular radiotelephone systems engineered by Motorola in Texas. My duties included project manager responsibility on coordinating all aspects of new installations. A substantial amount of time was spent on assisting customers on how to repair their systems via the telephone instead of making field service in person.

1966 to 1967 and 1969 TO 1972 - WRR AM/FM BROADCAST STATION, DALLAS, TEXAS - Broadcast engineer. Duties included repair of audio consoles, turntables, tape decks, and other equipment. Performed all transmitter maintenance (5KW AM, 100KW FM stereo multiplexed / SCA) and directional antenna array. Calibrated frequency and modulation monitoring devices. Performed annual proof of performance tests and monthly signal strength measurements per FCC requirements.

1967 TO 1969 - CITY OF DALLAS, TEXAS - MUNICIPAL RADIO DEPARTMENT. Installed and maintained commercial type two-way radio base and mobile units for various city departments, including police, fire, water, and public works. Repaired and calibrated police traffic radar sets. Was responsible for the HF radio stations for Civil Defense at the City of Dallas EOC.

REFERENCES

Available on Request.