

County of Humboldt Job Specification
SENIOR RADIO COMMUNICATIONS TECHNICIAN
Classification 0190
FLSA: Non-Exempt



DEFINITION

Under immediate and general supervision, provides technical support for county-wide radio communication systems and infrastructure including the assembly, installation, programming, testing, maintenance, and repair of two-way radio, microwave, and computer equipment and systems used by local government agencies for public safety, emergency communications, and other communications functions; learns to assist in design of related networks; and troubleshoots issues related to network applications and radio telecommunication equipment; and performs related duties as assigned.

SUPERVISION RECEIVED AND EXERCISED

Receives general direction from assigned supervisory or management personnel. Exercises technical and functional direction over and provides training to lower-level staff. Exercises no direct supervision over staff.

CLASS CHARACTERISTICS

This is the advanced journey-level classification in the Communications Technician series responsible for performing the most complex work assigned to the series. Incumbents regularly work on tasks which are varied and complex, requiring considerable discretion and independent judgment. Positions in the classification rely on experience and judgment to perform assigned duties and ensure efficient and effective service in assigned program area. Assignments are given with general guidelines and incumbents are responsible for establishing objectives, timelines, and methods to complete assignments. Work is typically reviewed upon completion for soundness, appropriateness, and conformity to policy and requirements.

The Communication Technician series is distinguished from other information technology series in that the Communications Technician series has full responsibility for electronic communications equipment with a focus on digital and analog radio systems and the design of complex radio communications systems.

EXAMPLES OF TYPICAL JOB FUNCTIONS (Illustrative Only)

Management reserves the right to add, modify, change, or rescind the work assignment of different positions.

- Plans, schedules, prioritizes, and assigns work to communications staff in consultation with the supervisor and/or director.
- Inspects and evaluates work in progress and upon completion to ensure activities are performed in accordance with County standards; provides input on annual employee performance evaluations.

- Develops and standardizes procedures and methods to improve and continuously monitors the efficiency and effectiveness of assigned programs, service delivery methods, and procedures; identifies opportunities for improvement and recommends to the supervisor and/or director.
- Performs the most complex projects involving the planning, coordination, installation, design, implementation, testing, and maintenance of countywide radio and data communications systems.
- Maintains the existing communications systems for the County. Develops configurations for the County's communications systems and integrates new telecommunications equipment and software.
- Oversees and conducts the installation, programming, and configuration of complex components and/or segments of the County radio communications system, including all aspects of hardware, software, and operating systems, such as LAN/WAN, internet based communication systems, base and mobile radio transmitters and receivers, portable radios, microwave systems, multiplex equipment, antennas, remote control devices, repeaters, encoders, decoders, and other communications and electronic communications equipment.
- Establishes and coordinates a periodic preventative maintenance program for county owned communications equipment; makes recommendations to the Information Technology (IT) Division Director on shop procedures and replacement or acquisition of equipment.
- Confers with the IT Division Director and other employees to evaluate the efficiency of County communications systems
- Handles the more difficult malfunctions of communications equipment; use appropriate test equipment or hand tools to identify failures and repair or restore service; assists technicians on complicated repair jobs; uses Network Monitoring Systems (NMS), appropriate test equipment or hand tools to identify faults or failures in the network or radio infrastructure; repairs, replaces, and configures equipment to restore service; performs field service work as necessary.
- Climbs poles and microwave antenna support towers up to 225 feet to install, inspect, repair, service, and maintain communication equipment.
- Uses manufacturer software and various applications to program repeaters, microwave, routers, switches, DC power systems, Mobile Data Computer (MDC), Domain Name Server (DNS), SQL server development, including parameters, alignments, and/or network setup and security.
- Provides technical and support services for communication systems to various organizations including State and local organizations, local law enforcement agencies, and emergency response entities, and departments which manage facilities operations and road maintenance programs.
- Programs, adjusts, and checks radios for peak performance; keeps radio communication console up to date; adds and deletes channels and paging tones for dispatch purposes as needed.
- Diagnose and troubleshoot problems with radio and communication systems, including network performance, inter-connectivity issues, data integrity and security systems, and network security, backhaul systems, and networking equipment such as network routers, switches, and monitoring systems; contacts and works with vendor representatives to resolve suspected and actual problems.
- Develops, deploys, and maintains radio site systems infrastructure, dispatch centers, user control stations, and mountain top repeaters; monitors radio communications systems; makes field surveys to determine transmissions coverage.

- Develops technical drawings and support documentation; and reads and interprets electrical and electronic diagrams and service manuals.
- Tests circuits, transistors, and other components using various specialized test equipment or isolate and correct defects in the circuits and components; measures frequencies, modulation, and power output of transmitters to ensure compliance with federal, state, and local regulations; adjusts transmitters and receivers for maximum efficiency.
- Conducts research on new and enhanced telecommunications equipment; identifies telecommunications equipment needs; sources and orders equipment and materials.
- Maintains accurate records and documents actions taken and researches regulations, procedures, and technical reference materials.
- Prepares, researches, and files necessary Federal Communications Commission licenses and renewals.
- During major disasters or incidents, provides two-way radio channel information for interoperability, mitigates radio channel interference, acquires and/or installs temporary radio equipment through the normal National Incident Command structure and local radio cache.
- Performs other related duties as assigned.

Reasonable accommodations may be made to enable qualified individuals with disabilities to perform the essential functions.

QUALIFICATIONS

The requirements listed below are representative of the knowledge and ability required.

Knowledge of:

- Principles of providing functional direction and training.
- Principles and practices of developing and maintaining technical documentation, files, and records.
- Principles and techniques for working with groups and fostering effective team interaction to ensure teamwork is conducted smoothly.
- Techniques for the installation, maintenance, programming, diagnosis, and repair of modern digital and analog communications equipment.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and County staff.
- The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.
- Applicable federal, state, and local laws, regulatory codes, ordinances, and procedures relevant to assigned areas of responsibility.
- Rules and regulations of the Federal Communications Commission covering the installation, operation, maintenance, and repair of transmitters, receivers, and related communications equipment
- Advanced and emerging technologies such as P25, trunking, and Radio over Internet Protocol (RoIP).
- Advanced radio configuration and programming.
- Principles of staff development and training.
- Computer, local area networks, and wireless voice and data systems
- Standard work safety principles and practices.

- Principles of effective grounding of telecommunications equipment.
- Modern equipment and communication tools used for business functions and program, project, and task coordination, including computers and software programs relevant to work performed.

Ability to:

- Participate in developing and implementing procedures and work standards for areas of assignment.
- Plan, schedule, assign, and oversee the work of assigned staff.
- Effectively provide staff leadership and work direction.
- Train others and observe safety practices related to the work.
- Inspect the work of others and maintain established standards in performing applications analysis work.
- Oversee and perform complex functions in the installation, implementation, testing, and integration of a variety of communications systems.
- Work collaboratively with County staff to identify and implement solutions for business process improvements and efficiencies.
- Recommend, design, develop, and implement new, enhanced, or modified radio communication systems.
- Prepare clear and concise technical documentation.
- Understand, interpret, and apply all pertinent laws, codes, regulations, policies and procedures, and standards relevant to work performed.
- Independently organize work, set priorities, meet critical deadlines, and follow-up on assignments.
- Effectively use computer systems, software applications relevant to work performed, and modern business equipment to perform a variety of work tasks.
- Communicate clearly and concisely, both orally and in writing, using appropriate English grammar and syntax.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Education and Experience:

Any combination of training and experience that would provide the required knowledge, skills, and abilities is qualifying. A typical way to obtain the required qualifications would be:

Equivalent to an associate degree in information technology, computer science, or a related field

and

Five (5) years of increasingly responsible experience in the installation, repair, of two-way communication transmitters and receivers, microwave, and public security systems, or two (2) years of experience in the County's classification of Radio Communications Technician II.

Licenses and Certifications:

- Must possess a valid US driver's license upon date of application. Must obtain California driver's license following hire date per California DMV regulations.
- Within 1 year of employment, employees must obtain a valid general class Radio-Telephone Operator's license issued by the Federal Communications Commission, or equivalent certificate issued by an appropriate certification body in the absence of FCC regulations.
- Within one year of employment, incumbents must obtain a tower-climbing certification that meets the criteria for Safety, Health, and Environmental training per the American National Standards Institute and National Association of Tower Erectors – Climber Training Standard. Possession of Cisco Certified Network Associate (CCNA) and Cisco Certified Network Associate Security (CCNA Security) certifications, or equivalent certifications, is desirable. All licenses and certifications, once obtained, must be kept current as a condition of employment in this classification.

PHYSICAL DEMANDS

- Mobility to work in a standard office and use standard office equipment, including a computer, and to operate a motor vehicle to visit various County and meeting sites; primarily a sedentary office classification although standing in and walking between work areas may be required; occasionally bend, stoop, kneel, and reach to perform assigned duties, as well as push and pull drawers open and closed to retrieve and file information; ability to lift, carry, push, and pull materials and objects up to 10 pounds with the use of proper equipment.
- Vision to read printed materials and a computer screen.
- Hearing and speech to communicate in person and over the telephone.
- Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment.
- Mobility to work in changing site conditions; to sit, stand, and walk on level, uneven, or slippery surfaces; to reach, twist, turn, kneel, and bend, to climb and descend ladders; and to operate a motor vehicle and visit various County sites.
- Strength and stamina to perform light to medium physical work; lift, carry, push, and pull materials and objects averaging a weight of 40 or heavier weights of up to 100 pounds on a frequent basis, in all cases with the use of proper equipment and/or assistance from other staff.
- Vision to inspect site conditions and work in progress.
- Fieldwork requiring frequent walking in operational areas to identify problems or hazards, with exposure to hazardous materials in some site locations.
- Strength and stamina to climb up to 225 feet.
- Ability to stand, walk, lift, climb and crawl.

ENVIRONMENTAL CONDITIONS

- Office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances.
- Also includes field work with exposure to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, confining workspace, chemicals, mechanical and/or electrical hazards, and hazardous physical substances and fumes.

- Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing departmental policies and procedures.
- Some work may be performed in small or tight spaces, including inside and/or under other objects.
- Some work is performed in an outdoor or other environment where exposure to inclement weather conditions, dirt, dust, and/or electrical current can occur. Employee must ensure adequate clothing, personal protection equipment, and survival provisions when traveling to remote radio sites.

ADDITIONAL REQUIREMENTS

- Must be willing to work long hours and be subject to on call procedures for emergencies outside of regular working hours.
- Some departments may require pre-employment screening measures before an offer of employment can be made (i.e. background screening, physical examination, etc.).