

**County of Humboldt Job Specification**  
**RADIO COMMUNICATIONS TECHNICIAN I/II**  
**Classification 0186**  
**FLSA: Non-Exempt**



**DEFINITION**

Under general direction, leads, trains, oversees, and personally performs a diverse range of analytical duties pertaining to the planning, coordinating, implementing, and oversight of assigned programs, projects, and initiatives dealing with the design, acquisition, installation, operation, maintenance, repair, and replacement of the coordinated, countywide radio, microwave, wireless, and data communications systems; and performs related duties as required.

**SUPERVISION RECEIVED AND EXERCISED**

Receives immediate (Radio Communications Technician I) and general (Radio Communications Technician II) supervision from assigned supervisory or management personnel. Exercises no direct supervision of staff.

Some Radio Communications Technician II positions may provide technical and functional direction and training to assigned staff.

**CLASS CHARACTERISTICS**

*Radio Communications Technician I:* This is the entry-level classification in the Radio Communications Technician series. Initially under close supervision, incumbents learn to repair, service, and maintain a wide variety of electronic equipment both in the field and in a shop environment. As experience is gained, assignments become more varied, complex, and difficult; close supervision and frequent review of work lessen as an incumbent demonstrates skill to perform the work independently. Positions at this level primarily perform first level responder duties and exercise less independent discretion and judgment in matters related to second level response and work procedures and methods. Work is usually supervised while in progress and fits an established structure or pattern. Exceptions or changes in procedures are explained in detail as they arise.

*Radio Communications Technician II:* This is the journey-level classification in the Radio Communications Technician series. Positions at this level are distinguished from the I-level by the performance of the full range of duties as assigned, working independently, and exercising judgment and initiative. Positions at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies of the work unit.

Positions in the Radio Communications Technician class series are flexibly staffed and positions at the II level are typically filled by advancement from the I level after gaining the knowledge, skill, and experience which meet the qualifications for, and after demonstrating the ability to perform the work of, the higher-level classification.

**EXAMPLES OF TYPICAL JOB FUNCTIONS (Illustrative Only)**

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

- Installs, configures, and maintains the County's radio and communication systems and equipment; installs wiring and cabling.
- Provides technical and support services for communication systems to various organizations including State and local organizations, local police departments, and emergency response entities, and departments which manage facilities operations and road maintenance programs.
- Upgrades, repairs, cleans, maintains, and removes a variety of digital and analog equipment used in fixed and mobile public safety and emergency communication systems, and in other communication systems used by local government departments, agencies, and emergency response organizations.
- Maintains the existing communications systems for the county. Assists in the development of the County's communications systems and integrates new telecommunications equipment and software.
- Assists in conducting 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.
- Assists in the implementation of a periodic preventative maintenance program for County owned communications equipment.
- Handles 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.
- 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; checks and maintains network monitoring system and remote terminal unit.
- Diagnoses and troubleshoots 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.
- Reads and interprets electrical and electronic diagrams and service manuals.
- 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.
- Measures frequency, modulation, and power output of radio and microwave transmitters to ensure compliance with federal regulations; adjusts transmitters and receivers for maximum efficiency.
- Implements, documents, and maintains county-wide radio communications policies, procedures, and associated training plans, working in partnership with other information technology staff, department staff, and outside vendors as needed.
- Writes and maintains user and technical operating instructions and documentation; provides training to users and other technical staff and advises on best practices.
- Researches and provides recommendations for the purchase of hardware, software, and related radio communications solutions.
- 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.*

*Some duties, knowledge, skills, and abilities may be performed in a learning capacity for entry-level (I Level) positions.*

### **Knowledge of:**

- Basic electronics, radio communications, and microwave theory, principles, and practices.
- Basic digital and analog principles.
- Applications of microwave and radio receivers, transmitters, and auxiliary communications equipment, including amplifiers and antennas.
- Standard telecommunications and data networking software and equipment including network routers and switches; installation, maintenance, and repair methods utilized with solid-state communication equipment.

- Basic radio modulation and detection.
- Standard tools and test equipment utilized in the repair and servicing of radio communications equipment
- Standard work safety principles and practices
- Principles of effective grounding of telecommunications equipment
- Rules and regulations of the Federal Communications Commission
- Operations, maintenance, and repair of transmitters, receivers, and related communications equipment.
- Principles, practices, methods, and techniques of troubleshooting, diagnosing, and resolving communication systems hardware, software, and peripheral equipment issues.
- Security and monitoring devices, and procedures necessary to maintain the integrity and security of data.
- Principles and practices of developing and maintaining technical documentation, files, and records.
- Applicable federal, state, and local laws, regulatory codes, ordinances, and procedures relevant to assigned area of responsibility.
- Principles and techniques for working with groups and fostering effective team interaction to ensure teamwork is conducted smoothly.
- 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.
- 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:**

- Utilize test equipment in locating and repairing operating faults.
- Use hand tools appropriate to the duties and responsibilities of the position.
- Read schematic diagrams
- Maintain good working relations with county departments and co-workers
- Climb to heights of up to 225 feet
- Work long and irregular hours, including emergency call outs, 24 hours per day on a pre-established standby schedule.
- Understand, interpret, and explain systems solutions to users; research technical materials to provide solutions to problems.
- Develop and maintain technical operating instructions and documentation; train staff on software applications and hardware usage.
- Deal tactfully with the users and staff in providing information, answering questions, and providing customer service.
- Respond to and effectively prioritize a high volume of phone calls and other requests for service.
- 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**

Radio Communications Technician I: one (1) year of experience providing technical support for desktop computer hardware and software or network/communication systems.

Radio Communications Technician II: three (3) years of experience in the assembly, installation, programming, testing, maintenance, and repair of two-way radio, microwave, and computer equipment and systems or two (2) years of experience at a level equivalent to the County's class of Radio Communications Technician I.

**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.).