

RADIO SYSTEMS TECHNICIAN

FUNCTION OF THE JOB

Under supervision, to perform specialized technical work in the installation, repair, and maintenance of Countywide digital and analog trunked radio, FM land mobile, and microwave communications systems and equipment; and to perform other duties as required.

CHARACTERISTIC DUTIES AND RESPONSIBILITIES

1. Installs, services, and optimizes a variety of FM land-mobile, microwave, trunked radio, and base transmitter communications systems and electronic equipment such as hand-held and mobile radios, pagers, base transmitters, microwave units, communications consoles and associated data networks, system controllers, E9-1-1 call display and routing equipment, and system management terminals.
2. Installs, repairs, and maintains data transport/data network equipment and media including wireless, fiber, DS1/T1, channel banks, multiplexers, routers, automatic protection switches, and performs network service and dynamic data impairment analysis.
3. Performs set-up, modifications, and upgrades to equipment by using computer software to program required and customized specifications, configurations, and priority levels; and by installing software.
4. Tests operational parameters of equipment to ensure compliance with specifications, FCC rules, and compatibility with users' system and the trunked radio system.
5. Monitors operations to check for equipment failures or deviation from normal operational specifications.
6. Diagnoses and isolates malfunctions in a wide variety technical of equipment; researches technical service manuals and reviews schematic diagrams; performs optimization and service to the component level; and tests equipment for proper functioning.
7. Performs installation, service and programming of communications systems and consoles (9-1-1 dispatch centers).
8. Maintains and repairs microwave networks.
9. Performs scheduling and prioritization of repairs and maintenance, and responds to requests for service.
10. Provides information to and trains users on an individual and group basis in the proper operation, usage, and care of, and in the federal rules and regulations concerning electronic and communications equipment.
11. Provides accurate and detailed records of services performed on automated database system including time spent on service, parts used, and other relevant information for billing and costing purposes.
12. Implements and tests in-building bidirectional radio frequency (RF) amplification systems to provide reliable public safety trunked radio communications in dense mission-critical buildings.
13. Implements periodic optimization of the trunked radio, and microwave network system infrastructure.
14. Provides emergency service response (on call status) to all County 911 communication centers on a 24x7x365 basis; provides support and coordination with Milwaukee County Emergency Management for regional communication needs.
15. Maintains testing and repair equipment, tools, and workspace.
16. Establishes and maintains effective working relationships with other County departments, outside organizations, vendors, and co-workers.
17. Performs other duties as required.

QUALIFICATIONS

Essential Knowledge and Abilities

1. Considerable knowledge of the methods, procedures, specifications, and equipment used in the operation of trunked radio, land-mobile, and microwave communications systems.

QUALIFICATIONS

Essential Knowledge and Abilities (cont.)

2. Considerable knowledge of the techniques, methods, procedures, and tools used in the installation, repair, diagnosis and maintenance of land-mobile, and microwave communications systems and electronic equipment.
3. Considerable knowledge of the operational theory, parameters, and applications of radio frequency (RF) technologies, including digital, microprocessor, microwave, and trunked radio, and of RF-related mathematics, circuit design, and electronics.
4. Considerable knowledge of computer-based network systems and equipment, such as 800 MHZ trunked radio simulcast system, including computerized diagnostics and operational controls.
5. Considerable knowledge of IP networking, servers, routers, switches, P25 trunking, including Ethernet, T1/DS1 lines and fiber, fiber multiplexers, routers, and automatic protection switches.
6. Considerable knowledge of the use, operation, calibration, and care of various electronic tools and diagnostic equipment and software.
7. Considerable knowledge of the state and federal rules, regulations, codes, and standards governing radio communications operations and installation.
8. Ability to diagnose problems, make repairs, and resolve issues in a timely manner.
9. Ability to read and understand complex schematic diagrams and technical service manuals.
10. Ability to train users in the proper usage of communications and electronic equipment.
11. Ability to use computer systems and database applications to provide accurate and detailed records.
12. Ability to communicate effectively, both verbally and in writing.
13. Ability to prepare and maintain accurate and detailed report and records using the computer system and database application.
14. Ability to establish and maintain effective working relationships with other County departments outside organizations, vendors and co-workers.
15. Ability to effectively interact with sensitivity with persons from diverse cultural, socioeconomic, educational, racial, ethnic, and professional backgrounds, and persons of all ages and lifestyles.

Training and Experience

1. High School Diploma or GED.
2. Three (3) years of post high school work experience in the installation, repair, or maintenance of FM land-mobile, or microwave communications equipment or consoles.
3. Post high school education at a technical school, college, or university in two-way radio communications design or servicing, or in electronics or a closely related field with coursework in two-way radio communications may be substituted for one (1) year of the work experience requirement.
4. Valid driver's license.