

Marion Area Multiagency Emergency Telecommunications Center (METCOM) Communications Technician

GENERAL DESCRIPTION OF DUTIES

Under the general supervision of the Director of the Marion Area Multiagency Emergency Telecommunications Center (METCOM), this position performs advanced professional-level technical work in the design, installation, modification repair, upgrading, and operation of the 9-1-1 dispatch center. The Communications Technician has overall responsibility for the operation, installation and maintenance of the radio communications system used by the Agency. This work requires advance professional communications engineering expertise to ensure the reliable operation of the emergency communications system.

SUPERVISION EXERCISED

Supervision is not a typically assigned to this position. However, the Communications Technician is required to provide training and orientation to new assigned personnel on a periodic basis.

ESSENTIAL DUTIES AND RESPONSIBILITIES

1. Knowledge of the MODUCOM Radio system is strongly preferred.
2. Consults with the Director and users to determine the need for and characteristics of modifications necessary to obtain or maintain operational standards.
3. Oversees, plans, schedules, and performs maintenance services at the center and remote facilities as needed. Manages and conducts routine inspections of remote radio sites including equipment and generators located at or in the dispatch center.
4. Performs initial tests on new equipment to determine compliance with purchase specifications; installs equipment and performs tests to insure that it is in compliance with system objectives and applicable state, local and federal Communications Commission Rules and Regulations.
5. In conjunction with the Director, will manage FCC and microwave licensing and all microwave path documents and the maintenance of microwave paths.
6. Performs reconfigurations and other software programming for new and existing installations to ensure efficient and cost-effective services.
7. Fabricates equipment as needed to effectively interface with other pieces of communications equipment.
8. Requires the ability to use complex schematic diagrams to follow signal paths; uses a variety of test equipment to troubleshoot and repair equipment and systems and test new equipment.
9. Develops solutions for the effective diagnosis of system degradation and restoration of system performance specifications. Interprets collected data to determine appropriate course of action.
10. Researches, reviews, and maintains complex technical processes, manuals, and files; provides guidance on specialized processes; performs and/or oversees specialized technical applications.

11. Applies electronic technology techniques including analog, digital, and radio frequency generation techniques, to install, modify, maintain, repair, and operate a variety of complex equipment used in communication systems.
12. Ability to perform complex equipment design modification or development; constructs, assembles, tests, and documents new, highly specialized equipment.
13. Analyzed voice and/or data communications requirements of potential users; discusses system or equipment problems, limitations, or changing requirements with users; analyzes possible options and suggests feasible solutions. Interprets collected data to determine appropriate course of action.
14. Provides formal and informal technical training and guidance as needed.
15. Serves as communications contact for user agencies and meets with other departments as needed.
16. Researches and prepares information for technical proposals and cost analyses for proposed system changes, additions, extensions, upgrades, and integrations at the request of the Director.
17. Responds to emergency situations during and after normal business hours and repairs equipment and systems in routine and emergency situations.
18. Measures frequencies, deviation and power input/output of radio ensuring compliance with federal regulations. Ensures transmitters and receivers are operating at maximum efficiency.
19. Installs, repairs, and maintains two-way and portable radio equipment including wiring, mount units, antennas; examines and troubleshoots defective components.
20. Research the ability of procuring and obtaining federal and state surplus property through various methods as well as state and federal grant dollar opportunities.
21. May attend METCOM board meetings and other user agency meetings to address communication issues and questions.
22. Prepares and maintains a variety of records and reports including timesheets, work orders, inspection reports, accident reports, budgetary estimates, equipment inventory records, equipment distribution records, and service and repair records.
23. Ensures compliance in safety of wiring, lighting, general workplace safety and security are observed.
24. May use a variety of hand and power tools and test equipment related to electronic work.
25. Maintain and advance professional knowledge and skill by participating in on going training and conferences.
26. Performs other job duties as assigned.

KNOWLEDGE, SKILLS, ABILITIES, AND OTHER

Knowledge:

- Advance concepts of electronic technology including analog, digital, and radio frequency generation techniques;
- Prior working knowledge of MODUCOM Radio System;

- Tools, equipment, practices, and methods of installing, repairing, and modifying electronic equipment, closed-circuit television equipment, and other electronic equipment.
- Construction, assembly, troubleshooting, and operation of radio equipment, closed circuit television and microwave systems, and other electronic equipment including knowledge of state, local and federal rules and regulations;
- Microprocessor, telephone, and data communications circuits, theory, and practices and other public safety communications equipment;
- Methods of diagnosis to determine repair of equipment;
- Safe work methods and safety regulations related to work;
- Budgeting and fiscal monitoring and research;
- Digital logic theory and applications;
- Antenna and transmission line and propagation theory;
- Mathematics as applied to electronics including algebra, geometry, and trigonometry;
- Global Positioning Systems and GIS theory and terminology;
- Logging recorders including overall use, installation, and channel assignment;
- Computer Aided Dispatch (CAD) systems as they pertain to radio and paging;
- Computer software installation and configuration methodologies;
- Interoperability standards and requirements;
- 700 MHz – wireless communications – current and future technologies; and
- Mobile Computer Terminals (MCT) as they relate to radio data communication.

Skills:

- Troubleshooting and repair of solid-state communications equipment, including microprocessor-based systems;
- Repair of printed circuit boards and strip-line circuitry;
- Reading and interpreting electronic schematic diagrams;
- Solving radio interference and intermodulation problems;
- The use of electronic hand tools and soldering techniques;
- Devising and implementing effective solutions for unusual problems in telecommunications systems; and
- Observe all safety and security procedures.

Abilities:

- Understand and relate how changes or upgrades to various communications systems will affect dispatch functions and public safety users and mitigate the effects to ensure impact in minimal or an enhancement of the overall operation;
- Read and comprehend schematic diagrams, blueprints, and rough sketches;
- Maintain and repair various types of radio and electronic equipment;
- Exercise independent judgment and initiative within established guidelines;
- Communicate effectively in English, orally, visually, and in writing;
- Understand and implement oral or written procedures and instructions;
- Establish and maintain tactful, courteous, and effective working relationships with those contacted in the course of work, including user agencies and the general public;
- Work in a team-based environment to achieve common goals;
- Handle multiple priorities and organize workload;
- Work outside of normal established work hours to address communication issues;
- Bend, stoop, crawl, lift, reach , and walk up and down stairs to perform assigned duties; and
- Lift and remove or install parts weighing up to 50 lbs.

Other:

- Attention to detail;
- Creative approach to job management;
- Ability to exercise appropriate judgment or choice among possible actions, sometime without clear precedents, and with concern for the consequences of the action;
- Maintain a valid driver's license;
- Initiative;
- Flexibility in dealing with people, deadlines, and projects.

EDUCATION AND EXPERIENCE

Any equivalent combination of education and experience that demonstrates the knowledge, skills, and abilities is qualifying. A typical way to qualify would include at least an Associate degree or equivalent specializing in electronic engineering technology and five years of current full-time experience in the troubleshooting and repair of communication/electronic equipment. An FCC license is desired but not required, and a low voltage electrical license is desired but not required.

BACKGROUND REQUIREMENTS

This position is subject to a complete and thorough background check including fingerprinting, criminal history, and drug testing. Serious criminal and/or driving convictions will result in disqualification.

PHYSICAL DEMANDS

This position involves standing, walking, stooping, crawling, reaching, sitting, bending, kneeling, climbing, grasping, hearing, and eye and hand coordination. The person working in this position must be able to communicate, reach, use repetitive motion of fingers/hands/wrist; and push, lift, pull and carry 50 pounds. Use of a computer keyboard is required.

This position involves the ability to hear and understand sound sources coming through a headset, radio speaker, telephone, or other audio device or combination of devices. Additionally, this position involves the ability to read and discern visual images on a variety of media, including color-coded schematics and computer screens.

Qualified individuals with a disability will be reasonably accommodated to perform the essential functions of this position.

WORKING CONDITIONS

Work is performed primarily indoors; however, outdoor work at repeater sites is also required. The person in this position will be exposed to electrical hazards, will work in improperly illuminated areas, noisy environments, and operate vibrating power equipment such as lawnmowers and weed eaters. The employee is required to work flexible shifts to include overtime, attend evening meetings on occasion, and be available for on call emergencies.