

**Career Service Authority**  
*Traffic Signal Electronic Technician*

Revised Date	03/01/2000
Revised By	Patricia Anderson
FLSA Code	Non-Exempt
Est. Date	09/16/95

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***General Statement of Duties***

Repairs and maintains specialized electronic and electrical traffic signal systems and equipment which includes bench repairs, diagnosing, testing, and calibrating.

***Job Responsibilities and Knowledge, Skill, and Ability Requirements***

1. Conducts tests on traffic signal systems using appropriate test equipment to ensure proper operation and conformance to manufacturer's specifications and required standards.
  - *Knowledge of safety hazards and necessary safety precautions sufficient to be able to establish a safe work environment for self and others.*
  - *Knowledge of electronics and related traffic signal devices sufficient to be able to conduct tests.*
  - *Skill in using electronic testing equipment.*
2. Analyzes, anticipates, and develops traffic signal applications to establish safe, efficient, and practical operation in traffic.
  - *Skill in recognizing, analyzing, and anticipating traffic signal applications and making on-site adjustments as necessary.*
3. Performs bench repairs of electronic circuit boards, microcomputers, and related electronic parts of traffic control equipment.
  - *Knowledge of safety hazards and necessary safety precautions sufficient to be able to establish a safe work environment for self and others.*
  - *Skill in using hand and power tools common to electronic systems and equipment.*

- *Knowledge of electronics sufficient to be able to perform maintenance and repairs to the component level on specialized electronic and electrical systems and equipment.*
- 4. Designs and fabricates circuits and related equipment as needed to utilize existing equipment, modify applications, or resolve unusual problems.
  - *Skill in designing and fabricating electronic circuits and related equipment.*
  - *Skill in independently adapting, interpreting, and applying written guidelines, precedents, and standardized work practices to a variety of precedents and problematic situations.*
- 5. Designs and fabricates specialized test equipment to verify specific traffic equipment systems operational specifications.
  - *Knowledge of electronics and related traffic signal devices sufficient to be able to conduct tests.*
  - *Skill in designing and fabricating electronic circuits and related equipment.*
- 6. Develops and administers training for traffic signal personnel relating to guidelines, standard practices, and general knowledge of traffic signal equipment/systems.
  - *Knowledge of training practices sufficient to be able to provide training to others.*
- 7. Responds to emergency calls of malfunctioning intersections and performs field repairs on traffic signal control equipment as requested.
  - *Skill in using hand and power tools common to electronic systems and equipment.*
  - *Skill in troubleshooting problems in equipment to repair or isolate probable problem areas.*
  - *Knowledge of electronics sufficient to be able to perform maintenance and repairs to the component level on specialized electronic and electrical systems and equipment.*
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- 8. Reviews, evaluates, and recommends specific Traffic Signal Systems/Equipment purchases as required.
  - *Skill in evaluating and recommending new equipment.*
  - *Skill in exercising initiative, judgement, and decision making in solving problems and meeting organizational objectives.*

9. Performs other related duties as assigned or requested.

*Any one position may not include all of the duties listed. However, the allocation of positions to this class will be determined by the amount of time spent in performing the primary duties listed above.*

## ***Job Requirements***

### **Level of Supervision**

May perform lead work on a job by job or rotating basis.

### **Guidance and Decision Making**

Guidelines are generally but not always clearly applicable, requiring the employee to exercise judgment in selecting the most pertinent guidelines, interpret precedents, adapt standard practices to differing situations, and recommend alternative actions in unprecedented situations. Work assignment is performed within an established framework under general instructions. Employee is responsible for determining time, place and sequence of action to be taken. Unusual problems or proposed deviations from guidelines, practices, or precedents may be discussed with the supervisor before being initiated. Completed work is reviewed for soundness of judgment, conclusions, adequacy, and conformance to policy.

### **Interpersonal Communications**

Contacts with the public or employees where explanatory or interpretive information is exchanged, gathered or presented.

### **Physical Demands**

Setting: remaining in the normal seated position.

Balancing: maintaining body equilibrium to prevent falling over.

Reaching: extending the hand(s) and arm(s) in any direction.

Handling: seizing, holding, grasping, or otherwise working with hand(s).

Fingering: picking, pinching, or otherwise working with fingers.

Hearing: perceiving the nature of sounds by the ear.

Eye/hand/foot coordination: performing work through using two or more.

### **Vision Requirements**

Far Acuity: ability to see clearly at 20 feet or more.

Near Acuity: ability to see clearly at 20 inches or less.

Depth Perception: ability to judge distance and space relationships.

Field of Vision: ability to see peripherally.

Accommodation: ability to adjust vision to bring objects into focus.

Color Vision: ability to distinguish and identify different colors.

**Mental Demands**

Mathematical Reason  
Memorization  
Written Comprehension

**Environmental Conditions**

Hazards: conditions where there is danger to life, body, and/or health.

**Working Conditions**

Exposed to a variety of electro-mechanical hazards.  
Exposed to hazards from electro/mechanical/power equipment.  
Subject to electrical and radiant energy hazards.

**Minimum Education**

Graduation from high school or possession of a GED Certificate supplemented by a certificate in electronics from an accredited training program.

**Minimum Experience**

Three years of current experience in component level troubleshooting and repair of integrated circuit and microprocessor based electronic systems.

**Equivalency**

Additional appropriate education may be substituted for one year of the minimum experience requirement.

**Licensure and Certification**

Possession of a valid Colorado Class "R" Driver's License at the time of application.