Office of Human Resources

Electronic Systems Technician – CJ2511

General Statement of Duties
Installs, modifies, fabricates, troubleshoots, repairs and maintains a wide variety of specialized technical electronic equipment and electrical systems.

Distinguishing Characteristics
This class is distinguished from Electronic Equipment Installer, which installs electronic equipment including two-way radio, cellular phone, mobile computer terminals and ancillary electronic equipment in a variety of City vehicles. This class is distinguished from Communications Electronic Technician, which performs bench and field maintenance and repair work on electronic and electrical systems in radio transmitters and receivers. This class is also distinguished from Maintenance Technician, which performs standard performance, semi-skilled, trades work in a variety of trade areas for the purpose of construction, maintenance, repair and/or installation of equipment and/or facilities (mechanical work).

Guidelines, Difficulty and Decision-Making Level
Guidelines are generally but not always clearly applicable, requiring the employee to exercise judgment in selecting the most pertinent guideline, interpret precedents, adapt standard practices to differing situations and recommend alternative actions in situations without precedent.

Duties assigned are generally complex and may be of substantial intricacy. Work assignment is performed within an established framework under general instructions but requires simultaneous coordination of assigned functions or projects in various stages of completion.

Employee is responsible for determining time, place and sequence of actions to be taken. Unusual problems or proposed deviations from guidelines, practices or precedents may be discussed with the supervisor before being initiated.

Level of Supervision Received & Quality Review
Under general supervision, the employee receives assignments and is expected to carry them through to completion with substantial independence. Work is reviewed for adherence to instructions, accuracy, completeness and conformance to standard practice or precedent. Recurring work clearly covered by guidelines may or may not be reviewed.

Interpersonal Communication & Purpose
Contacts with the public or employees where explanatory or interpretive information is exchanged, gathered or presented and some degree of discretion and judgment are required within the parameters of the job function.

Level of Supervision Exercised
By position, performs lead work.

Essential Duties
Repairs and maintains electronic systems and equipment such as microwave, radar, radio, computers, cellular phones, closed circuit TV, cable TV, security, runway lighting, paging, fire alarm and other related electronic, control and signalizing systems.
Troubleshoots, tests, diagnoses, calibrates, and performs bench and field repairs to the component level.

Designs and fabricates circuits and related equipment as needed to utilize existing equipment, modify applications, or resolve unusual problems.

Installs and maintains radio systems, antennas, transmission lines, power supplies, videos, microwave transmitters and receivers, alarm and signaling equipment, encoders and decoders, computer data systems, and other related communication systems.

Performs preventative maintenance for electronic control and signalizing equipment to minimize repair problems and to meet manufacturers’ specifications.

Reviews service contracts, evaluates and recommends equipment purchasing as assigned.

Provides training and maintenance instructions to operators or installers of specialized systems and equipment.

Operates a variety of computer systems designed to monitor and/or operate specific electronic and electrical systems.

Researches and prepares technical reports.

Maintains records on required and completed repair work.

By position, writes computer programs compatible with operating systems to expand functions.

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

**Competencies**

Attention to Detail - Is thorough when performing work and conscientious about attending to detail.

Decision Making - Makes sound, well-informed, and objective decisions; perceives the impact and implications of decisions; commits to action, even in uncertain situations, to accomplish organizational goals; causes change.

Reading - Understands and interprets written material, including technical material, rules, regulations, instructions, reports, charts, graphs or tables; applies what is learned from written material to specific situations.

Technical Competence - Uses knowledge that is acquired through formal training or extensive on-the-job experience to perform one’s job; works with, understands, and evaluates technical information related to the job; advises others on technical issues.

Technical Problem Solving - Troubleshoots diagnoses, analyzes, and identifies system malfunctions to determine the source and cause of the problem.

Technology Application - Uses machines, tools, or equipment effectively; uses computers and computer applications to analyze and communicate information in the appropriate format.

Written Communication – Composes, reviews, edits, and issues written materials for diverse audiences and communicates purpose in a succinct and organized manner that is appropriate for context, time, and place.
Knowledge & Skills

Knowledge of circuit boards, processors, chips, and computer hardware and software, including applications and programming.

Knowledge of electronic theory, circuits, components, and material properties (excluding computers).

Knowledge of electrical equipment, components, instruments, and systems, including their design, installation, testing, uses, repair, or maintenance.

Knowledge of safety hazards and necessary safety precautions sufficient to be able to establish a safe work environment for self and others.

Education Requirement

Graduation from high school or the possession of a GED, HiSET or TASC Certificate.

Experience Requirement

Three (3) years of experience building and maintaining electronic systems and equipment and making component level repairs.

Education & Experience Equivalency

Additional appropriate education may be substituted for the minimum experience requirements.

Licensure & Certification

This job requires driving. Requires a valid Driver’s License at the time of application.

By position, requires a valid Commercial Driver’s License (CDL "B") with appropriate endorsements by the end of probation.

By position, requires FCC General Radio Telephone Operator’s License by the end of the probationary period.

Licenses and certifications must be kept current as a condition of employment.

Working Environment

Potential exposure to temperature changes: variations in temperature from hot to cold.
Potential exposure to hazards from electro/mechanical/power equipment.
Potential exposure to cold temperatures, cold enough to cause marked bodily discomfort.
Potential exposure to heat temperatures, hot enough to cause marked bodily discomfort.
Potential exposure to toxic chemicals.
Subject to precarious or high locations.

Level of Physical Demand

3-Medium (20-50 lbs.)

Physical Demands

(Physical Demands are a general guide and specific positions will vary based on working conditions, locations, and agency/department needs):

Carrying transporting an object, usually by hand, arm, or shoulder.
Climbing: Ascending or descending objects usually with hands/feet.
Color Vision: Ability to distinguish and identify different colors.
Dept Perception: Ability to judge distances and space relationships.
Field of Vision: Ability to adjust vision to bring objects into focus.
Field of Vision: Ability to see peripherally.
Fingering: Picking, pinching, or otherwise working with fingers.
Lifting: Raising or lowering objects weighing no more than 50 pounds, from one level to another.
Mental Demands: mathematical reasoning, memorization, oral comprehension, spatial orientation, and written comprehension.
Reaching: Extending the hand(s) and arm(s) in any direction.
Repetitive Motions: Making frequent movements with a part of the body.
Vision Far acuity: ability to see clearly at 20 feet or more.
Vision Near acuity: ability to see clearly at 20 inches or less.
Standing: Remaining on one’s feet in an upright position.

Background Check Requirement

Criminal Check
Employment Verification
By position, Motor Vehicle Record

Assessment Requirement

None

Probation Period

Six (6) months.

Class Detail

Pay Grade: J-621
FLSA Code: N
Management Level: 10
Established Date: 9/21/2018
Established By: Lori Schumann
Revised Date: 6/30/2019
Revised By: Blair Malloy
Class History:
6/30/19 – Added CDL by position statement to licensure section.