ELECTRONIC REPAIR SHOP TECHNICIAN

FC: MA155 **PC:** 301
PG: MW-III **BU:** 01
Revised: November 2004

*Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are **not** intended to reflect all duties performed within the job.*

DEFINITION

Under general supervision, performs skilled troubleshooting, maintenance, secondary repair, and modification to a variety of electronic components found in revenue vehicles, automatic fare collection equipment, communications equipment and other electronics exclusive of control computer components; and performs related work as assigned.

CLASS CHARACTERISTICS

This is the journey level classification performing skilled repair and modification on all electronic systems, components and microprocessors found in transit revenue vehicles and related support systems found throughout the District. Incumbents work independently according to accepted standards of the trade, supervisory direction, District procedures and practices, and established specifications. This class is distinguished from other specialized technician classes in that the work relates specifically to the secondary maintenance and repair of electronic components and microprocessors on an automotive test equipment (ATE) bench, rather than primary shop or field setting.

REPORTS TO

Incumbents report to the Electronic Repair Shop Foreworker.

EXAMPLES OF DUTIES – *Duties may include, but are not limited to, the following:*

1. Performs troubleshooting, maintenance, repair and adjustment at the system, board, card, and discrete component level on various electronic systems and components found in transit revenue vehicles, including those associated with propulsion, train control, brake control, air conditioning, annunciation, communications, door control, lighting, and auxiliary electrical supply as well as those found in auxiliary equipment such as destination signs, automatic fare equipment and wayside control equipment.

2. Troubleshoots, maintains, adjusts and programs microprocessors found in such equipment.

3. Performs modifications to revenue vehicle electronic systems, as directed by engineering and supervisory staff.

4. Recommends improvements and works with engineering and other maintenance staff regarding modifications; uses diagnostic test equipment and precision measuring devices in the course of the work, including automated test equipment (ATE).

5. Devises and fabricates new testing equipment and routines as required for use on new components and systems.

6. Verifies performance of new or modified systems or equipment.

7. Reads and interprets diagrams, engineering drawings, manuals, schematics and work orders.

8. Measures, tests and inspects completed work to confirm adherence to specifications.

9. Performs data searches using the District network systems.

10. Maintains records of work performed and parts and materials used; maintains documentation updating when necessary; follows proper safety procedures.

QUALIFICATIONS

Knowledge of:

- Basic operating principles of analog and digital electronics, electrical and electronic circuitry, and associated mechanical mechanisms
- Maintenance, repair and programming of electronic micro-processing systems
- Methods, equipment and materials used in the secondary maintenance and repair of a variety of electronic and electromechanical systems, components and equipment
- Use and care of test equipment and power and hand tools of the trade
- Troubleshooting and diagnostic techniques
- Shop arithmetic as required for the trade; safety practices and procedures pertaining to the work
- District network PC applications

Skill/Ability in:

- Diagnosing and repairing operational problems in a variety of electronic systems, components and equipment at the system, board and card level including microprocessors
- Performing preventive maintenance on and modifications to electronic systems and components
- Reading and interpreting engineering schematics, drawings, diagrams, manuals and work orders
- Devising and fabricating test equipment and testing procedures for new or modified equipment
- Using and maintaining hand and power tools and testing equipment of the trade, to include automated test equipment (ATE)
- Understanding and following oral and written directions
- Performing word processing using the District current application systems
- Maintaining accurate records of work performed and materials used
- Establishing and maintaining effective working relationships with those contacted in the course of the work

MINIMUM QUALIFICATIONS

Education:

An Associate degree in electronics from an accredited college, a Certificate of Achievement in Electronics from an accredited college, completion of military training in electronics, or completion of an apprenticeship as an electronic technician and possession of a high school diploma, GED or recognized equivalent.

Experience:
One (1) year of (full-time equivalent) verifiable journey level experience in the installation, maintenance or repair of electronic systems and components, including communications components and microprocessor systems.

Other Requirements:
Must possess color vision to distinguish parts and wiring.
Must be physically able to lift and carry equipment weighing up to 70 lbs.
Must be able to occasionally wear respiratory protective equipment during the performance of assigned duties in accordance with the District Respirator Program and applicable Cal-OSHA requirements.
Must be able to work various shifts, weekends, holidays, and overtime.
Must be able to understand, read and communicate in English.

Substitution:
In additional to the experience listed above, four (4) years of (full-time equivalent) verifiable electronic maintenance experience (i.e. maintaining, troubleshooting and repairing electronic and/or electro-mechanical equipment) can be substituted for the
education.

WORKING CONDITIONS

Environmental Conditions:
Field environment; construction site environment; exposure to heat, cold, moving vehicle, high voltage during testing, electrical energy and inclement weather conditions.

Physical Conditions:
Requires lifting and carrying equipment; may require standing, walking, or sitting for prolonged periods of time.