

**NOTICE OF PROPOSED CLASSIFICATION ACTIONS BY  
THE HUMAN RESOURCES DIRECTOR**

The following actions are being posted in accordance with Civil Service Rule 109. In the absence of a protest addressed to the Human Resources Director, the proposed changes will become final seven (7) calendar days from the posting date.

**Posting No:** 16  
**Fiscal Year:** 2013/2014  
**Posted Date:** 1/10/14  
**Reposted Date:** N/A

**AMEND THE FOLLOWING JOB SPECIFICATION(S):**  
*(Job specification(s) attached.)*

Item #	Job Code	Title
1	7318	Electronic Maintenance Technician
2	7329	Electronic Maintenance Technician Assistant Supervisor

**For additional information regarding this proposed classification action, please contact Cathy Abela, Senior Classification and Compensation Analyst, at (415) 557-4926 or by email at [Cathy.Abela@sfgov.org](mailto:Cathy.Abela@sfgov.org).**

Protests on an item should be addressed to the Human Resources Director and can be submitted by mail to the City and County of San Francisco, Department of Human Resources, 1 South Van Ness Ave, 4th Floor, San Francisco, CA 94103 or by email to [DHR.ClassificationActionPostings@sfgov.org](mailto:DHR.ClassificationActionPostings@sfgov.org). All protests must be received in writing no later than close of business seven (7) calendar days from the posting date, and must include the posting and item number(s), the basis on which the protest is submitted and identify the effected parties.

Copies of this notice may be obtained from the Department of Human Resources or from the website at: <http://sfdhr.org/index.aspx?page=109>. Copies of Civil Service Rule 109 may be obtained from the Department of Human Resources, the office of the Civil Service Commission at 25 Van Ness Ave, Suite 720, San Francisco, CA 94102 or from the website at: <http://www.sfgov3.org/index.aspx?page=328>.

**cc:** All Employee Organizations  
All Departmental Personnel Officers  
DHR – Class and Comp Unit  
DHR – Client Services Unit  
DHR – Employee Relations Unit  
DHR – Recruitment and Assessment Unit  
DHR – Client Services Support Services  
Micki Callahan, DHR  
Jennifer Johnston, CSC  
Sandra Eng, CSC  
Linda Cosico, DHR  
Maria Newport, SFERS  
Risa Sandler, Controller/Budget Division  
Devin Macaulay, Controller/ Budget Division  
Theresa Kao, Controller/ Budget Division  
Chris Trenchel, Controller/ Budget Division  
E-File

CITY AND COUNTY OF SAN FRANCISCO  
DEPARTMENT OF HUMAN RESOURCES

Title: ELECTRONIC MAINTENANCE TECHNICIAN  
Job Code: 7318

## INTRODUCTION

Under general supervision, the Electronic Maintenance Technician performs a wide variety of highly skilled technical work including, but not limited to, the trouble-shooting, maintenance, testing, repair, calibration, fabrication, installation and modification of transit electronic equipment and a wide variety of other types of electronic equipment and related control system components; and performs other duties as required.

## DISTINGUISHING FEATURES

This journey-level job classede is characterized by its responsibility for maintenance and repair work on various types of electronic equipment. Assignments may involve responsibility for the circuits, components, and related equipment used in connection with the operation of electronically controlled light rail and trolley vehicles. Other assignments may involve responsibility for maintaining electronic communication systems, telemetering, remote control equipment and power house equipment. ~~Incumbents may be assigned duties which bring them in contact with electrical apparatus and electronic and electric sub-systems. It is distinguished from 7336 Electronic Instrumentation Technician, Water Pollution Control, in that the latter is responsible for the maintenance and repair of electronic systems, instruments and equipment at the City's sewage treatment plant and pumping stations. This class is distinguished from the 7329 Electronic Maintenance Technician Assistant Supervisor, which is the advanced journey level in this series, and the latter is assigned to perform the more difficult and complex work and will supervise staff.~~

## SUPERVISION EXERCISED

## MAJOR, IMPORTANT, AND ESSENTIAL DUTIES

*According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.*

### MUNICIPAL RAILWAY:

1. Performs correctiveon and preventive maintenance, non-routine repair, modification, and troubleshooting, calibration, removal and installation of complex electronic systems, and equipment and transit vehicles.
2. Tests and calibrates electronic equipment using established test procedures; operates Diagnostic Test Equipment (DTE), function generators, oscilloscopes, transmission measuring test sets, meters, and other devices required to maintain electronic systems and equipment; utilizes various schematics, blueprints, wire lists, equipment manuals, and other resources.
3. Inspects newly installed equipment including circuits and systems to evaluate performance under operating conditions; may assist in the design fabrication, testing, and

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evaluation of prototypes.

4. Maintains records of work performed; develops documentation for the maintenance installation, removal and modification of electronic systems and equipment.

5. Instructs other personnel in system maintenance procedures and operations; may advise and assist management personnel and others on operating problems involving electronic transit equipment.

6. ~~May~~ Operates special hand and power tools, such as soldering equipment, drill press grinder, crimper, saws, wire-rap tools, and other related equipment.

~~OTHER PUBLIC UTILITY LOCATIONS:~~

~~74.~~ Inspects, maintains and repairs inter-network communication systems, ~~power line carrier~~, supervisory control, remote signal and remote control equipment, instrumentation and control systems, and flow, pressure and level sensor calibrations.

~~82.~~ ~~Makes periodic inspection~~, maintenance and repairs ~~of~~ radio, fire alarm and security systems, ~~videoclosed circuit television~~ equipment, digital electronic equipment, telemetering, communication, protective relays, meters and other electronic and auxiliary apparatus.

~~93.~~ ~~Assists in the inspection~~, maintenance and repair ~~of~~ various miscellaneous electrical equipment in powerhouse, switch yard and sub-station; may act as an emergency operator at an unattended powerhouse station.

10. Operates a motor vehicle to respond to service requests at various locations

**IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES**

Knowledge of: ~~Requires considerable knowledge of integrated circuits, solid-state physics, electronics and electrical principles and theory, including solid state components as applied to control, function, and logic circuits; digital and analog circuits; functional use of complex electronic test equipment.~~

Ability to: ~~Requires ability to~~ evaluate electronic systems, circuits and components; troubleshoot electric signal, data and radio communications, power and signal equipment; work from schematics, drawings and blueprints; operate a motor vehicle and maintain insurability standards; use a computer and software applications.

Skill to: ~~Following logic procedures with regard for consequences in problem solving; making circuit calculations; interpreting schematics; reading, writing and communicating verbally; the application of safety procedures in the use of high-voltage equipment. Instruct and advise other personnel on maintenance procedures; compose work records, documentation for maintenance; apply safety procedures in the course of work~~

**MINIMUM QUALIFICATIONS**

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DEPARTMENT OF HUMAN RESOURCES**

**Title: ELECTRONIC MAINTENANCE TECHNICIAN  
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*These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.*

1. ~~Completion of a two (2) year or equivalent program in electronics~~ from at a recognized academic, trade or technical institution; or completion of a military training program in electronics

AND

2. Three (3) years of verifiable journey-level industrial or institutional electronic ~~or journey-level electrical~~ experience ~~which includes installation~~ performing installation, instrumentation calibration, maintenance, troubleshooting, repair and modification of electronic systems and related electrical components and electronic sub-systems to the electronic component level; or an equivalent combination of training and experience; AND

3. Possession of a valid California Valid Class C or III D driver's L license ~~to be presented at the time of appointment.~~

**LICENSE AND CERTIFICATION**

**PROMOTIVE LINES**

**TO: 7329 Electronic Maintenance Technician Assistant Supervisor**

**FROM: 7430 Assistant Electronic Maintenance Technician**

**ORIGINATION DATE:** May 17, 1977

**AMENDED DATE:** April 28, 2000

**REASON FOR AMENDMENT** *To accurately reflect the current tasks, knowledge, skills and abilities defined in the most recent job analysis conducted for this job code.*

**BUSINESS UNIT(S):** COMMN SFMTA

**CITY AND COUNTY OF SAN FRANCISCO  
DEPARTMENT OF HUMAN RESOURCES**

**Title: 7329**

**Job Code: ELECTRONIC MAINTENANCE TECHNICIAN ASSISTANT SUPERVISOR**

### **INTRODUCTION**

Under general supervision, the Electronic Maintenance Technician Assistant Supervisor performs a wide variety of highly skilled electronic system trouble shooting, maintenance, testing, and repairs; exercises work direction over a small group of subordinate skilled and semi-skilled staff engaged in such work; and performs related duties as required.

### **DISTINGUISHING FEATURES**

This class is the lead worker or working supervisor in the Electronic Maintenance Technician series. It is distinguished from the higher level Supervising Electronic Maintenance Technician by the smaller size of crew and more limited scope of activities supervised. It is distinguished from the lower level 7318 Electronic Maintenance Technician by the complexity of work assigned and responsibility for exercising work direction over other technical personnel.

### **SUPERVISION EXERCISED**

### **MAJOR, IMPORTANT, AND ESSENTIAL DUTIES**

*According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.*

1. Supervises by Pplannings, assignings and reviewings the work of a small group of skilled, semi-skilled and support staff performing trouble-shooting, maintenance, repair, calibration, fabrication, installation, design, modification and development of a wide variety of electronic systems, ~~substems and equipment~~.
2. Performs quality assurance tests; assists in developing and modifying maintenance and repair policies and procedures.
3. Performs a variety of complex, non-routine electronic maintenance tasks including corrective and preventive maintenance, repair, trouble shooting, calibration, removal, and installation, and system design and modification.
4. Advises staff in solving difficult problems, assists in training and interpreting policy; enforces safety procedures; analyzes equipment failures, personnel or operational problems and reports to supervisor.
5. Maintains records of maintenance activities including vehicle work orders, time and materials usage, equipment test results, vehicle modifications, and others as directed.
6. ~~May be assigned to a~~ Analyzes chronic equipment failure, design system improvements, estimate project time and costs, or prepare specialized reports of program activities.
7. Tests and calibrates electronic equipment using established test procedures; operates Diagnostic Test Equipment , function generators, oscilloscopes, transmission measuring test sets, meters, locators, and other devices required to maintain electric/electronic systems and equipment; utilizes various schematics, blueprints, wire lists, equipment manuals, and other

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resources.

8. Performs corrective and preventive maintenance, non-routine repair, modification, troubleshooting, calibration, removal and installation of complex electronic systems, equipment and transit vehicles

9. Inspects existing and newly installed equipment including motor/generator control circuits and systems to evaluate performance under operating conditions; may assist in the design fabrication, testing, and evaluation of prototypes.

10. Instructs other personnel in system maintenance procedures and operations; may advise and assist management personnel and others on operating problems involving electronic transit equipment.

11. Operate special hand and power tools, such as soldering equipment, drill press grinder, crimper, saws, wire-rap tools, and other related equipment.

12. Inspects, maintains and repairs network communication systems, supervisory control, remote signal and remote control equipment, instrumentation and control systems, and flow, pressure and level sensor calibrations.

13. Inspects, maintains and repairs radio, fire alarm and security systems, video equipment, digital electronic equipment, telemetering, communication, protective relays, meters and other electronic and auxiliary apparatus.

14. Inspects, maintains and repairs various miscellaneous electrical equipment in powerhouse, switch yard and sub-station; may act as an emergency operator at an unattended powerhouse station.

15. Maintains detailed files and record-keeping system to assure accurate and complete documentation of payroll/personnel

16. Operates a motor vehicle to respond to service requests at various locations

**IMPORTANT AND ESSENTIAL KNOWLEDGES, SKILLS, AND ABILITIES**

~~Requires considerable knowledge of: integrated circuits, solid state physics, electronics and arid electrical principles and theory, including solid state components as applied to control, function, and logic circuits;~~ digital and analog circuits; functional use of complex electronic test equipment; relay logic and electronic power, data processing and communications equipment; principles and methods of electronics systems maintenance and repair; and safety procedures.

~~Requires ability to: evaluate electronic systems, circuits and components; trouble-shoot signal, data and radioelectric communications, power and signal equipment; work from drawings and blueprints; plan, assign, and supervise subordinate staff; maintain records of maintenance activities; Operate a motor vehicle and maintain insurability standards; use a computer and software applications~~

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~~Requires considerable skill to: following logical procedures with regard for consequences in problem solving; making circuit calculations; interpreting schematics; reading, writing and communicating verbally; in the use of high voltage equipment. Instruct and advise other personnel on maintenance procedures; compose work records, documentation for maintenance; apply safety procedures in the course of work~~

~~Nature of the work involves some physical effort and dexterity in the use of fingers, limbs and body; exposure to some physical working conditions where minor injuries may occur.~~

~~Normal color vision and a high degree of mechanical dexterity is mandatory.~~

### MINIMUM QUALIFICATIONS

*These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.*

~~1. Requires completion of high school, supplemented by e~~Completion of a two (2) year course or equivalent program in electronics training at a Junior College or from a recognized academic, trade, or technical vocational institution or its equivalent.; or completion of a military training program in electronics; AND

~~2. Requires four~~Five (5) years of industrial or institutional electronics or journey level electrician experience performing which included installation, instrumentation calibration, maintenance, trouble-shooting, repair and modification of electronic control systems and related electrical components and electronic sub-systems to the electronic component level; AND

~~3. Possession of a valid California driver's license~~

### LICENSE AND CERTIFICATION

~~Must possess a valid California Motor Vehicle Operator's License and a Federal Communications Radio Telephone First or Second Class License for position openings involving radio equipment servicing.~~

### PROMOTIVE LINES

TO: 7287 Supervising Electronic Maintenance Technician

FROM: 7318 Electronic Maintenance Technician

ORIGINATION DATE: 10-2-79

AMENDED DATE:

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**Title: 7329**

**Job Code: ELECTRONIC MAINTENANCE TECHNICIAN ASSISTANT SUPERVISOR**

**REASON FOR AMENDMENT**

*To accurately reflect the current tasks, knowledge, skills and abilities defined in the most recent job analysis conducted for this job code.*

**BUSINESS UNIT(S):**

COMMN SFMTA