

THE CITY OF LOS ANGELES



CIVIL SERVICE COMMISSION

CLASS SPECIFICATION

6/28/07

COMMUNICATIONS ELECTRICIAN, 3686

Summary of Duties: Performs skilled work in the installation, construction, repair, maintenance and modification of electronic monitoring and control system, video systems, medical equipment, avionics systems, communications systems including radio, SCADA, radar, signal, telephone, telemetering, microwave, fiber optic, local/wide area networks, data transmission, and associated systems and equipment; and does related work.

Distinguishing Features: Employees in this class are concerned with the electronic, electrical and mechanical phases of a variety of monitoring, control and communications facilities such as fire dispatch and signal systems; fire, police, and other private City telephone systems; radio television, radar, paramedic, avionics, SCADA, fiber optic, telemetering, microwave, data transmission and control systems, local/wide area networks, and associated equipment. Much of the work is performed in the field and in proximity to energized equipment and may occasionally involve the hazard of climbing poles and working from ladders or aerial lift trucks. Incumbents may be required to work on a 24-hour rotating shift basis and in areas outside of the City.

A Communications Electrician is a skilled journey level electronics craft worker. Assignments are received in terms of desired results, but special or more difficult assignments may be accompanied by drawings and detailed instructions. Completed work is checked by inspection, review of reports, and satisfactory performance of systems in operation.

Example of Duties:

- Installs, maintains, tests, and inspects dispatch equipment and radio communications equipment, including transmitters, receivers, antennas, and electronic test equipment, telephone carrier equipment, telephone instruments, multilane telephone systems, teletypes, microwave systems, sub-carrier and multiplexing equipment, electromechanical and electronic telephone switching systems, automatic dialing, office intercommunication, sound and public address, recording and annunciator equipment, navigational radar, speed control radar, medical equipment, avionics, communications and navigational equipment, microprocessors, data modems, supervisory control equipment, computerized security systems, video receivers, video cameras and recorders, power line digital fault locating equipment, and trouble warning devices;
- Repairs and calibrates precision electronic test equipment and systems;
- Installs, aligns and repairs teletype printers and microwave systems, control and data acquisition systems, and public address equipment;
- Uses hand tools, transmission level and frequency meters, return loss measuring equipment, programmable data transmission test equipment, pulse generators, analyzers, dual trace oscilloscopes, selective voltmeters, printed circuit card testers, tube and transistor testers, signal tracers, signal generators, telephone test boards and sets,

bridges, test lamps, and other electronic test equipment to locate and repair trouble in equipment and circuits;

- Determines the presence of opens, shorts, grounds, crosses, and other faults in circuits or systems;
- Replaces transistors, solid state components, integrated circuits, relays, shunts, coils, transformers, switches, fuses, and other electronic, electrical, and mechanical parts in systems, equipment, and circuits;
- Tests logic and timing circuits;
- Maintains teletype and telemetering equipment;
- May analyze problems in minicomputer, microprocessor, and microfilm equipment and computer interface equipment;
- Recommends system and service improvements;
- May operate special testing equipment to determine response and delay characteristics of communication channels;
- Conducts data error counts and analyze wave patterns;
- Adjusts data modems and line conditioning equipment;
- May construct test panels, relay racks, experimental equipment, power supplies, and amplifiers;
- May fabricate panels, cabinets, chassis, mounting devices, and replacement parts;
- Occasionally uses drill presses, table saws, chassis punches, grinders and related hand tools;
- Modifies obsolete electronic equipment to conform to new standards;
- Conducts operating tests;
- Keeps work records and makes reports;
- Makes schematic drawings of circuit installations and corrects drawings as required;
- Drives an automobile or light truck in performing the work and may drive all-terrain vehicles and snow vehicles into remote areas;
- Works with other communication crews, telephone company technicians, and technicians from other jurisdictions, contractors, vendors and employees from other City departments;
- May adapt and modify a variety of sound systems to meet the needs of Convention Center customers; and
- May meet with Convention Center customers to determine user needs and related fees, and to recommend appropriate audio design.

Qualifications:

Knowledge of:

- Principles of electricity and electronic theory relating to signal, control, telephone, telephone carrier, radio, video, teletype, noise monitoring, public address, telemetering, microwave, radar, avionics, paramedic, and data transmission systems and electronic test equipment;
- Common sources of trouble in, and the methods of servicing and repairing all types of control, signal, public address, telemetering, teletype, telephone, noise monitoring, microfilm, microwave and other data transmission, radar, radio, video, avionics and medical systems and equipment;

- Test equipment, tools, and materials employed in the construction, servicing, installation, and repair of such systems and equipment;
- Safety precautions and hazards involved in working on or installing energized lines and equipment;
- Federal Communications Commission regulations pertaining to the operation and maintenance of public safety and industrial radio services communications systems; and
- Tools and equipment employed by line workers.

Ability to:

- Locate and trace trouble in all types of electronic control, signal, public address, radio, video, telephone, telephone carrier, teletype, microwave, noise monitoring, microfilm, telemetering, and data transmission systems, radar, avionics, paramedic equipment, electronic test equipment and related equipment;
- Use electronic test equipment, tools, and materials, employed in constructing, servicing, installing, and repairing such systems and equipment;
- Adapt established practices, procedures, and principles of electrical and electronic circuitry to particular problems, conditions, and service needs of such systems and equipment;
- Deal tactfully and effectively with officials and the public;
- Keep records and make reports;
- Understand and work from communications plans, schematic diagrams, and other sketches and drawings, and oral and written instructions; and
- Prepare diagrams and sketches; and
- Climb poles and antenna towers.

Requirements:

1. Four years of full-time paid experience in maintenance, repair, and installation of any of a wide variety of electronics and communications systems including video, conventional and trunking two-way, and trunking radio, microwave, telephone systems, telemetering, control systems, monitoring, public address, data networks or programming, configuration or troubleshooting of communications systems software; or
2. Two years of full-time paid experience of the type specified in Requirement #1, and
 - a. Completion of a certificate program or associate degree program in electronics technology, telecommunications, or computer science at a recognized college or trade school; or
 - b. Successful completion of a U.S. military electronics technical course of 24 weeks or longer within the last 10 years.

License: A valid California driver's license may be required.

A valid General Radiotelephone Operator's License issued by the Federal Communications Commission is required for most of the positions in the class of Communications Electrician.

Physical Requirements: Strength to perform lifting up to 25 pounds and occasionally over 50 pounds; hand and finger dexterity with both hands; and good eyesight and hearing.

Persons with disabilities may be able to perform the essential duties of this class with

reasonable accommodation. Reasonable accommodation will be evaluated on an individual basis and depend, in part, on the specific requirements for the job, the limitations related to the disability, and the ability of the hiring department to reasonably accommodate the limitations.

As provided in Civil Service Commission Rule 2.5 and Section 4.55 of the Administrative Code, this specification is descriptive, explanatory and not restrictive. It is not intended to declare what all of the duties and responsibilities, and required qualifications of any position shall be.