

## TELECOMMUNICATIONS TECHNICIAN I/II/III

### **DEFINITION**

Under supervision, installs, tests, maintains, modifies, and repairs telephone signaling and electronic or digital private automatic branch exchange equipment to provide continuous communication services to County offices; and performs other related duties as assigned.

### **DISTINGUISHING CHARACTERISTICS**

**Telecommunications Technician I** is the entry-level in the Telecommunications Technician series. Incumbents at this level perform the less complex analog and digital telephone equipment installation, cable installation and maintenance, initially under the close supervision of an experienced technician. As experience and knowledge is gained, incumbents are expected to progress to more complex assignments and require less supervision. Incumbents assist journey-level technicians and learn to install, modify and repair telecommunications network systems and equipment.

**Telecommunications Technician II** is the full, working level in the Telecommunications Technician series and requires journey level proficiency in the full range of activities (including interpreting drawings and completing systems installations, modifications, maintenance, and repair). Duties include using a wide range of voice, data, and video communications technologies including interpreting specifications and interconnection requirements of new equipment.

**Telecommunications Technician III** is the advanced journey level in the Telecommunications Technician series. Incumbents at this level independently perform the most difficult and complex installations of both software and hardware, maintenance, diagnoses, and repair of a variety of electronic equipment in one or more of the following areas: call accounting, desktop messaging, voice mail, cellular/PBX integration, fiber or other network equipment, PBX or key system installation, programming, repair, and maintenance. The Telecommunications Technician III is distinguished from the IT Manager responsible for telecommunications in that the latter has management responsibility over planning, acquisition, deployment, operation, and support of specific technologies within the Telephone Systems division.

Telecommunication Technician is a flexibly staffed series. Incumbents hired at the Telecommunications Technician I/II levels may be appointed to the next higher level upon meeting the requirements of the higher position, and with the recommendation for promotion by the appointing authority.

The Telecommunication Technician series is distinguished from the Telecommunication Specialist series in that the latter is focused on telecommunications software application system programming in support of the telecommunications systems, and interaction with users to develop solutions for their needs, based on a variety of alternative telecommunications technologies, whereas the Technician series is focused on the telecommunications system hardware installation, deployment and the connectivity that is required to make the system work together. The Technician works to build the infrastructure, physically install telecommunications hardware and make the necessary connections. The Telecommunications Specialist then programs the system based on the customers' requirements.

### **EXAMPLES OF DUTIES**

Nothing in this specification restricts management's right to assign or reassign duties and responsibilities to this job at any time.

Telecommunications Technician I:

1. Conducts site surveys and meets with other department contacts to plan and coordinate new and upgraded cabling and telecommunications equipment for small or basic systems.
2. Installs, tests, maintains, and repairs key telephone systems.
3. Installs, maintains, and repairs distribution racks, interconnecting and distribution cables, terminals, intrusion alarms, alerting devices, grounding, and wiring on a variety of signaling and communications systems.
4. Maintains current telephone line terminations records and prepares written work reports.

**Telecommunications Technician II:** in addition to the duties listed above:

5. Installs, tests, maintains, and repairs electronic private automatic branch exchange equipment.
6. Conducts site surveys and meets with other department contacts to plan and coordinate new and upgraded cabling and telecommunications equipment for large and complex systems.
7. Responds to emergency calls in the event of a system failure.
8. Uses a personal computer to make software changes in digital switches.
9. Makes precision adjustments on switches, relays, and other electrical control devices for maximum operating efficiency.
10. Confers with representatives of County departments, telephone utility companies, County Communications personnel, and telephone service vendors regarding service, repair, adjustments, costs, corrections in service or billing, and the installation and removal of equipment. The Technician is responsible for the implementation of the provision of services after the Specialist has evaluated the requirement.

**Telecommunications Technician III:** in addition to the duties listed above:

11. Diagnoses and locates breakdowns within the telephone system and makes repairs to restore normal operation using a variety of complex testing methods and equipment.
12. May provide technical training and/or lead worker oversight of the work of less experienced technicians involved in telephone equipment installation and maintenance.
13. Writes technical specifications and makes recommendations for telephone, network, associated equipment, or test equipment to be purchased.

**QUALIFICATIONS**

A combination of experience, education, and/or training which substantially demonstrates the following knowledge, skills and abilities:

**Telecommunications Technician I:**

Some Knowledge of:

1. Tools, test equipment, practices, and methods used in installing analog and digital telephone and signaling equipment, such as Ericsson MC 110, Ericsson MD-110, 1A3, and CAT 3/5
2. Construction, assembly, repair, operation, and interconnection of electronic telephone equipment, including cabling standards, terminations, and testing
3. Personal computers and local and wide area computing networks

Skill and Ability to:

1. Analyze data, recognize problems, and draw logical conclusions
2. Keep up-to-date with modern technology in areas of interest to the County
3. Use electronic test and repair equipment to test and repair telecommunications equipment and systems
4. Clean and handle delicate electronic equipment
5. Follow oral and written instructions
6. Establish and maintain effective interpersonal relationships with those contacted during the course of work
7. Safely use hazardous chemical and solvents
8. Effectively communicate orally and in writing to convey technical information in non-technical terms
9. Use a Windows based PC to organize work, generate records and reports, and configure equipment
10. Control and configure IP enabled telecommunications equipment using data network communications protocols such as telnet, ping, IP config, and FTP

**Telecommunications Technician II:**

In addition to working knowledge of the Telecommunications Technician I knowledge, skills and abilities listed above:

Working Knowledge of:

1. The telecommunications systems needs and requirements of a County government with voice, data, video, 911, network, and other responsibilities
2. Wireless technologies such RFID, 802.11 data networks and remote sensing, surveillance and alarm devices
3. Zetron 3200-E-911 PSAP telephone system
4. Various network protocols such as ATM, Frame Relay, ISDN, E&M

Skill and Ability to:

1. Read and interpret complex technical manuals and procedures; read schematic circuit diagrams; test and repair cabling
2. Write clear, concise technical reports and documents
3. Work under limited daily supervision and under pressure of deadlines

**Telecommunications Technician III:**

In addition to thorough knowledge of the Telecommunications Technician I and II knowledge, skills and abilities listed above:

Thorough Knowledge of:

1. The core competencies of convergence which include data networking, telephony networking and convergence technologies areas including industry standards and protocols, infrastructure, IP protocols, telephony concepts and fundamentals, voice-over convergence, topology convergence and troubleshooting
2. Network-enabled SCADA supervision and control devices

Skill and Ability to:

1. Perform load calculations necessary for specifying UPS equipment

2. Lead, train, and coordinate the work of others

### **REQUIRED CONDITIONS OF EMPLOYMENT**

As a condition of employment, the incumbent will be required to:

1. Successfully pass a modified background investigation
2. Possess and maintain a valid California Class “C” driver’s license with a satisfactory driving record or be able to provide suitable transportation that is approved by the appointing authority
3. Work occasional nights and weekends
4. Respond to after hours emergency calls and perform standby duty as required
5. Occasionally work under adverse conditions, such as inclement or hot weather

### **EXAMPLES OF EXPERIENCE/EDUCATION/TRAINING**

The knowledge, skills and abilities listed above may be acquired through various types of experiences, education or training, typically:

#### **Telecommunications Technician I:**

One (1) year of specialized training in electronic technology or a closely related field, or one (1) year of technical experience in the operation, installation, maintenance, and repair of key telephone systems or electronic switching of PBX equipment

#### **Telecommunications Technician II:**

Two (2) years of technical experience in the operation, maintenance and repair of a telecommunications system similar to that used in the County (e.g., Ericsson MD-110 and Northern Telecom Norstar)

*Licenses and Certifications:* Possession of relevant telecommunications certifications from manufacturers and technical training facilities is highly desirable.

#### **Telecommunications Technician III:**

Four (4) years of journey level training and experience equivalent to that of a Telecommunication Technician II including: installing, maintaining, diagnosing, and repairing equipment such as that used in the County (e.g., Ericsson MD-110 and Northern Telecom Norstar)

*Licenses and Certifications:* Possession of relevant telecommunications certifications from manufacturers and technical training facilities including: certification on computing and network technologies (such as Microsoft Windows 2000 Server and Cisco CCNA certification) and computer hardware A+ certification is highly desirable.

### **PHYSICAL AND SENSORY REQUIREMENTS**

The physical and sensory abilities required for this classification include:

1. Strength to lift a 50-pound object, without assistance, and items weighing up to 150 pounds with assistance
2. Coordination and equilibrium sufficient to climb a ladder and maintain balance while pulling cable

3. Sight in order to read computer screens and standard computer printouts / may involve extensive VDT exposure; visual color discrimination sufficient to distinguish the color codes of wire and schematic drawings
4. Hearing, speech, sight, and physical dexterity sufficient to function in a typical office environment.
5. Coordinated, skillful movements of fingers, hands and arms to operate a computer keyboard; may require hand/eye coordination for semi-skilled movements, such as taking apart casings, installing parts and reconnecting computers.
6. Strength and dexterity to crawl, kneel, crouch, or twist to reach/and or work with assigned systems.
7. Manual and finger dexterity sufficient to work with hands in close tolerances and to work with extremely small electronic components
8. Strength, mobility and dexterity to use small hand and power tools as necessary and to climb or crawl to install equipment in areas of close tolerance

**CLASS HISTORY**

Class Code: 43L24/43L25/43L28  
 Established Date: I/II – November 1990  
 III – July 2000  
 Revised Date: May, 2008  
 April 2003  
 Former Title: N/A

**CLASS DATA**

Job Group: 14/14/13  
 EEO Category: T/T/T  
 Work Comp. Code: 9420/9420/9410  
 Bargaining/Employee Unit: J  
 FLSA: C

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Date