

# Telecommunications Technician

## *Essential Task Rating Results*

1	Install public safety communications wiring and cabling (e.g. copper, fiber, coax, waveguide) and associated connectors using proper tools to ensure reliable connections between various pieces of electronic equipment for public safety radio systems in accordance with Public Safety Communications Division policy and industry standards.
2	Maintain public safety communications wiring and cabling (e.g. copper, fiber, coax, waveguide) and associated connectors using proper tools to ensure reliable connections between various pieces of electronic equipment for public safety radio systems in accordance with Public Safety Communications Division policy and industry standards.
3	Repair public safety communications wiring and cabling (e.g. copper, fiber, coax, waveguide) and associated connectors using proper tools to ensure reliable connections between various pieces of electronic equipment for public safety radio systems in accordance with Public Safety Communications Division policy and industry standards.
4	Install public safety two-way radio and emergency warning equipment into public safety vehicles using appropriate tools and test equipment to ensure proper operation and compliance with State and Federal law.
5	Maintain public safety two-way radio and emergency warning equipment into public safety vehicles using appropriate tools and test equipment to ensure proper operation and compliance with State and Federal law.
6	Repair public safety two-way radio and emergency warning equipment into public safety vehicles using appropriate tools and test equipment to ensure proper operation and compliance with State and Federal law.
7	Modify public safety communications equipment (e.g., analog and/or digital microwave radios; analog and/or digital multiplex equipment; P25 equipment; low-band, VHF, UHF, 800 MHz base station/repeater 2-way radios, mobiles, portables, trunking, simulcast, consoles, logging recorders, antenna combining systems, computer systems and networks, emergency warning equipment) using appropriate tools and test equipment to improve the efficiency of public safety radio systems in accordance with Public Safety Communications Division policy, Federal Communications Commission rules, and/or industry standards.

8	Maintain public safety communications equipment (e.g., analog and/or digital microwave radios; analog and/or digital multiplex equipment; P25 equipment; low-band, VHF, UHF, 800 MHz base station/repeater 2-way radios, mobiles, portables, trunking, simulcast, consoles, logging recorders, antenna combining systems, computer systems and networks, emergency warning equipment) using appropriate tools and test equipment to improve the efficiency of public safety radio systems in accordance with Public Safety Communications Division policy, Federal Communications Commission rules, and/or industry standards.
9	Troubleshoot and repair public safety communications equipment (e.g., analog and/or digital microwave radios; analog and/or digital multiplex equipment; P25 equipment; low-band, VHF, UHF, 800 MHz base station/repeater 2-way radios, mobiles, portables, trunking, simulcast, consoles, logging recorders, antenna combining systems, computer systems and networks, emergency warning equipment) using appropriate tools and test equipment to improve the efficiency of public safety radio systems in accordance with Public Safety Communications Division policy, Federal Communications Commission rules, and/or industry standards.
10	Maintain circuits and components of public safety communications equipment using proper methods (e.g., computer interface, end to end tests, electronic theory knowledge) to ensure functionality of equipment.
11	Verify that electronic test equipment (e.g., RF service monitors, computers, oscilloscopes, metering panels, audio test sets) is functioning within manufacturer specifications to ensure reliable test results.
12	Climb radio tower structures and poles, using proper authorized safety equipment and procedures in accordance with California Occupational Safety and Health Administration guidelines to maintain public safety radio systems.
13	Perform preventative maintenance on a regular basis in order to ensure proper operation of public safety communications equipment in accordance with, Federal Communications Commission Federal Communications Commission regulations and Public Safety Communications Division policy.
14	Maintain field service vehicles to ensure safe and proper operation.
15	Analyze causes of radio frequency interference (e.g., intermodulation, de-sense, on-carrier interference) with public safety radio systems using test equipment in order to identify the source.

16	Eliminate or minimize sources of radio frequency interference (e.g., intermodulations, de-sense, on-carrier interference) using applicable methods (e.g., repositioning antennas, removal of rust, retuning transmitter, grounding) within public safety radio systems in accordance with Federal Communications Commission rules and regulations, Public Safety Communications Division policy, and industry standards.
17	Maintain site DC power systems (e.g., solar systems, battery systems, low voltage disconnect units, uninterruptable power supply) to ensure proper operation of public safety radio systems.
18	Monitor site backup AC power systems (e.g., generators, transfer panels) and report discrepancies to the responsible party.
19	Download files and programs from computer networks to support field operations for public safety radio systems.
20	Program radio personalities into communications equipment using compatible computers with public safety communications systems in accordance with Federal Communications Commission rules and regulations and Public Safety Communications Division policy.
21	Document job-related activities (e.g. service orders, location of equipment, repair parts, weekly time sheets, travel claims, Federal Communications Commission licenses, vehicle logs) in order to maintain public safety radio records and assist with billing.
22	Set operational parameters on public safety communications equipment using computers to define functions, enter data, or process information.
23	Communicate and illustrate layouts of equipment (e.g., electrical distribution, site access maps, special site considerations and needs, interconnect drawings) using drawings, schematics, or other documentation to assist with the maintenance and engineering of public safety radio systems.
24	Travel to communication sites located in various cities and/or remote mountaintop locations (e.g., 4-wheel drive vehicles, snow cats, helicopters, boats, hiking, snowshoes) to install, maintain, and repair public safety communications equipment.
25	Respond to after hour call-outs, when on call, to perform and/or facilitate equipment repairs within the assigned geographical call-out area to maintain public safety communication systems.
26	Respond to emergency call-outs to perform and/or facilitate emergency equipment repairs within the State of California to maintain public safety communication systems.
27	Conduct visual observations of conditions in order to report safety issues (e.g., fire dangers, gas leaks, structural damage to radio sites, heating and cooling equipment operation, general site cleanliness, and rodent infestations) to ensure continued functionality of public safety communication systems.

28	Communicate with client personnel regarding public safety communications equipment to ensure that systems are being properly maintained and to meet client needs.
29	Demonstrate equipment to clients and explain proper operation and respond to any inquiries or complaints.
30	Represent the organization to clients, the public, government, and other external sources by communicating in person, in writing, by telephone, or e-mail.
31	Provide requested information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person to ensure functionality within the organization.
32	Train other technicians and clients, when directed, on the use of public safety communication equipment to ensure safe and proper operation.
33	Coordinate with agencies during scheduled and unscheduled maintenance to alleviate unnecessary service interruptions.
34	Communicate with supervisors to provide notification of schedule and updates on current status of tasks.
35	Prioritize workload to ensure critical assignments are completed within deadlines.
36	Maintain work area to ensure a clean, safe, and efficient environment that is in compliance with division policy.
37	Test complex communications systems (e.g., analog/digital microwave radios; analog/digital multiplex equipment; low-band, VHF, UHF, 800 MHz, trunking, simulcast, consoles, antennas and combining systems) utilizing advanced test procedures with test equipment and computers in accordance with division policies and manufacturer specifications.
38	Evaluate communications equipment and make recommendations to agencies and engineering regarding technologies that improve or enhance system operation.
39	Review technical documentation (e.g., reports, correspondence, work packages) and drawings (e.g., equipment layouts, electrical distribution, site access maps, and microwave baseband flow drawings) to ensure accuracy.
40	Maintain technical documentation (e.g., reports, correspondence, work packages) and drawings (e.g., equipment layouts, electrical distribution, site access maps, and microwave baseband flow drawings) to ensure shop records are complete and accurate.
41	Ensure billing documents (e.g., timesheets, completed work orders, re-bill parts) submitted by technicians are processed and delivered in a timely fashion.

42	Create, modify, and program parameters of communications equipment (e.g., analog and/or digital microwave radios; analog and/or digital multiplex equipment; low-band, VHF, UHF, 800 MHz base station/repeater 2-way radios, mobiles, portables, trunking, simulcast, consoles, logging recorders) using compatible computers with public safety communication systems in accordance with Federal Communications Commission rules and regulations and Public Safety Communications Division policy.
43	Develop and prepare alignment procedures, test methods, and documentation to support proper system level setting and equipment operation.
44	Review alignment procedures, test methods, and documentation to support proper system level setting and equipment operation.
45	Observe conditions and document, report and/or resolve safety issues (e.g., fire dangers, gas leaks, structural damage to radio sites, heating and cooling equipment operation, general site cleanliness, rodent infestations) to ensure that public safety communications systems operate reliably and maintain a safe work environment.