

COMPUTER SERVICE TECHNICIAN

DEFINITION

Under direction repairs, services, and maintains computer system equipment and related peripheral devices; does related work as required.

NOTE: The examples of work for this title are for illustrative purposes only. A particular position using this title may not perform all duties listed in this job specification. Conversely, all duties performed on the job may not be listed.

EXAMPLES OF WORK:

Diagnoses, troubleshoots, and repairs microprocessor systems, related peripheral devices, and telecommunications hardware including digital controllers.

Diagnoses, troubleshoots, and repairs telecommunications hardware attached to minicomputers and/or mainframe computer based systems including key systems, communication controllers, circuit and board components, printers, modems, cables, terminals, connectors, and disk drives.

Diagnoses, troubleshoots, and effects repairs on all personal computers and communications and peripheral equipment including memory boards, disk controllers, monitors, personal computer tape devices, hard disks, floppy disks, power supplies, electronic switches, multiplexers, modems, digital controllers, terminals, printers, cables, and connectors.

Assembles and/or configures and tests microprocessors, minicomputers, and/or mainframe computer based systems according to user and/or application requirements, and tests prior to their release to field locations for installation.

Repairs electronic analog or digital computers and peripheral equipment, following schematics, diagrams, and handbook instructions.

Inserts test programs and data in computer, and monitors processing from maintenance or operator's control panel, comparing system performance and output to predetermined standards to analyze cause of machine error or stoppage.

Operates or observes computer and peripheral equipment during system and trouble localization tests to locate defective circuits and isolate faulty units.

Tests suspect circuits, modules, and components using oscilloscope and other instruments to diagnose defects.

Solders faulty connections and adjusts, repairs, or replaces defective electronic, electromechanical, or mechanical components according to service manuals, schematics, and diagrams.

Performs preventive maintenance duties such as cleaning unit, mass

replacing of transistors, tubes, or electronic components, and testing circuitry by simulating extreme operating conditions to locate and replace marginal components.

Checks new devices and/or systems for compliance with controller specifications.

Prepares regular, accurate, and informative reports relative to the operation and maintenance of microprocessor, minicomputer, and/or mainframe computer based systems and telecommunications hardware.

Instructs others in the proper field operation of assigned systems.

Maintains a library of manufacturers' catalogues, operating instructions, and repair manuals for all equipment and provides updates with latest vendor technical newsletter releases as required.

Reviews trouble data reports of equipment failures, completes analysis of failure, and effects repairs as required.

Prepares schematic wiring diagrams of auxiliary controller circuitry for special controller sequences and campus wiring configuration for either voice or data applications including local area networks.

Troubleshoots telecommunications lines including in-house cable, lease lines, and digital circuits for all remote or local terminals and telecommunications hardware including those peripheral devices attached to a microprocessor, minicomputer, and/or mainframe

computer based systems.

Maintains an inventory of frequently needed parts and supplies.

Prepares paperwork to order new parts, supplies, and equipment as required.

Determines whether sources of difficulty are hardware or software related and refers software problems to the appropriate area of responsibility.

Fabricates all types of computer cable for field or central sites as required.

May install all communication and peripheral computer equipment, lay cables and hook up electrical connections.

Will be required to learn to utilize various types of electronic and/or manual recording and computerized information systems used by the agency, office, or related units.

REQUIREMENTS:

EXPERIENCE:

Two (2) years of experience in the maintenance and/or repair of an electronic computer and various peripheral equipment including communication lines and related equipment or, experience in a data or voice communications equipment environment involving troubleshooting and diagnoses of hardware/software problems and electronic equipment installations or, problem identification, repair, and resolution of telecommunications hardware/software malfunctions.

NOTE: An Associates degree from an accredited college or

university in Computer Science, Data Processing, Computer Service Technology, Electronics or Electronic Engineering Technology, Electronics and Computer Technology may be substituted for the above experience requirement. Applicants having a higher level degree in these fields are considered to have met the above experience requirement.

NOTE: A certificate from an accredited vocational, trade, technical school or from the military service showing successful completion of a formal training program in the maintenance and repair of electronic and/or computer equipment may be substituted for the above experience requirement.

LICENSE:

Appointees will be required to possess a driver's license valid in New Jersey only if the operation of a vehicle, rather than employee mobility, is necessary to perform the essential duties of the position.

KNOWLEDGE AND ABILITIES:

Knowledge of electronic circuitry, theory, and practice of solid state circuitry as applied to microcomputers.

Knowledge of data/voice telecommunications protocols and associated wiring.

Knowledge of VOLT/OHM meters, break-out boxes, and cable **testers as** applied to data and voice communications equipment.

Knowledge of tools and test equipment including oscilloscope, curve tracer, logic analyzer, digital multimeters, **EIA** testers, system data scope, and data testers used to isolate and repair malfunctions in electronic and digital circuitry including microprocessors, microcomputers, and peripheral equipment.

Knowledge of manufacturers' diagnostic programs used to isolate and repair malfunctions in microcomputers and microcomputer components.

Knowledge of the installation methods and techniques used to fabricate and install microcomputers, microcomputer components, voice systems, and peripheral equipment.

Knowledge of cable fabrication techniques.

Ability to use technical manuals as for the configuration of terminal controllers, data and voice communications error conditions, and microcomputer malfunctions and error conditions, terminals, printers, modems, multiplexers and all other communications and peripheral equipment.

Ability to effectively interact with system users and vendors.

Ability to read electrical/building/construction blueprints to make recommendations concerning the placement of conduits and/or communications cable installations.

Ability to read and analyze complex schematic diagrams and logic diagrams.

Ability to use sophisticated testing equipment including digital

multimeters, EIA testers, system datascopes, data testers and break-out boxes.

Ability to learn the use of a protocol analyzer for diagnosing data communications errors as required.

Ability to use electric and hand tools required for the maintenance and repair of computer system and peripheral equipment.

Ability to comprehend functions of computer and peripheral equipment circuitry and components, to understand various number systems in which different computers operate, to interpret test panel lights, and to calibrate and operate test instruments.

Ability to prepare reports.

Ability to maintain records, reports, and files.

Ability to learn to utilize various types of electronic and/or manual recording and information systems used by the agency, office, or related units.

Ability to read, write, speak, understand, or communicate in English sufficiently to perform the duties of this position. American Sign Language or Braille may also be considered as acceptable forms of communication.

Persons with mental or physical disabilities are eligible as long as they can perform the essential functions of the job after reasonable accommodation is made to their known limitations. If the accommodation cannot be made because it would cause the employer undue hardship, such persons may not be eligible.