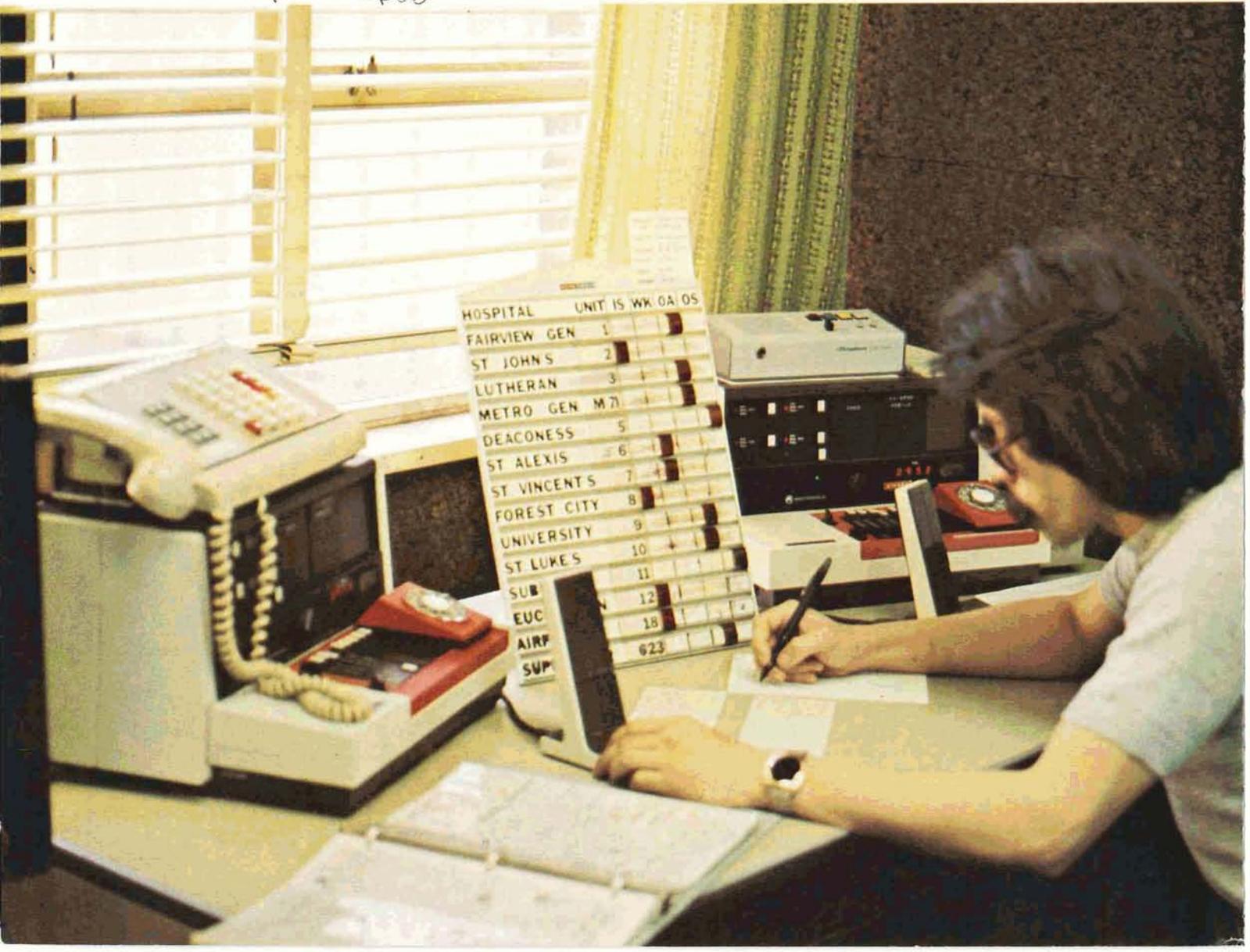


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**Medical Telemetry** Telemetry is the process whereby physiological or other data is acquired by instruments, translated into radio signals and sent to a receiving station where the signals are decoded and recorded. Extensively used in space operations, it is finding new Earth applications, among them transmission of medical data between emergency vehicles and hospitals. For example, transmission of an electrocardiogram from an ambulance to a hospital enables a physician to read the telemetered EKG and advise ambulance attendants on emergency procedures.

Central Medical Emergency Dispatch (CMED) operates as a regional emergency medical communications center for Cleveland, Ohio and Cuyahoga County. The CMED system includes radio and telephone communications from hospital-to-hospital and from ambulance-to-hospital, but for improved emergency life support CMED sought to add a county-wide telemetry capability. The problem was that there were only eight radio frequencies available for telemetry and there were more than 30 potential users in Cleveland alone. This created the

possibility of signal interference that would disrupt transmission of an emergency patient's vital signs. What was needed was a coordinated plan for installation and operation of telemetry equipment.

NASA's Lewis Research Center volunteered its expert assistance. The Center's engineers studied the systems of other telemetry using cities, surveyed area hospitals to assure compatibility of telemetry equipment, and advised what types of equipment would be needed in emergency vehicles and at the various hospitals. The Lewis plan suggested that CMED be designated the central coordinating agency for the Cuyahoga County system, monitoring all telemetry frequencies and, when requested, assigning one not in use or one to be used at a sufficient distance that it would create no interference problem.

The plan was adopted and installation of equipment began last year. The Cuyahoga County system is expected to be in use this year and telemetry may eventually be expanded to a five county network in Ohio.

