



Patient Monitoring In photo above, the electrocardiogram of a hospitalized patient is being transmitted by telemetry. Widely employed in space operations, telemetry is a process where in instrument data is converted to electrical signals and sent to a receiver where the signals are reconverted to usable information. In this instance, heart readings are picked up by the electrode attached to the patient's body and delivered by wire to the small box shown, which is a telemetry transmitter. The signals are relayed wirelessly to the console in the background, which converts them to EKG data. The data is displayed visually and recorded on a printout; at the same time, it is transmitted to a central control station (upper photo) where a nurse can monitor the condition of several patients simultaneously.

The Patient Monitoring System was developed by SCI Systems, Inc., Huntsville, Alabama, in conjunction with Abbott Medical Electronics, Houston, Texas. In developing the system, SCI

drew upon its extensive experience as a NASA contractor. The company applied telemetry technology developed for the Saturn launch vehicle and the Apollo spacecraft; instrumentation technology developed for heart, blood pressure and sleep monitoring of astronauts aboard NASA's Skylab long duration space station; and communications technology developed for the Space Shuttle.

Telemetry reduces the time needed for personal attendance by nurse or physician and permits round-the-clock monitoring with minimal inconvenience to the patient. An ambulatory patient can walk around, unencumbered by wires, while his EKG is continuously recorded; he can even leave his hospital room and move as far as 400 feet without interrupting the data relay. For intensive care situations where monitoring a number of other vital signs is necessary, SCI has developed a family of clinical instruments which can be employed in the Patient Monitoring System.