**Mr. John C. Herther**
**Inducted 2003**


Mr. John C. "Jack" Herther was born 3 August 1931 in Chicago, Illinois, and graduated from North Carolina State College in June 1953 with a bachelor's degree in mechanical engineering. The Air Force Institute of Technology sent him that fall to a graduate program under the tutelage of Charles Stark Draper, whose Instrumentation Laboratory at the Massachusetts Institute of Technology held contracts to develop inertial guidance for the Atlas ICBM as well as guidance and on-orbit stabilization of military satellites. In May 1955, First Lieutenants Herther and Malcolm R. Malcomson co-authored a classified thesis titled "A Transition Control System." Their study, which proposed placing a satellite in a 300-mile, circular orbit by means of an inertial referenced computer-controlled thruster fired at apogee, would become the foundation for ascent guidance and on-orbit stabilization of Lockheed's Agena spacecraft.

Upon receiving a Master of Science degree from MIT, Lieutenant Herther reported to Wright-Patterson Air Force Base, Ohio, as the guidance and control officer on the embryonic Advanced Reconnaissance System satellite project MX-2226—formerly designated Project 1115 and later WS-117L. For vertically updating gyros, he successfully tested horizon sensor designs in high-altitude balloon flights. When the satellite program transferred to Western Development Division in early 1956, Lieutenant Herther moved with it and worked initially on the Atlas booster interface. His responsibilities grew to include integration of the design of the Agena—originally referred to as the SAMOS universal payload satellite stage or Truck—with Atlas, as well as engineering of the Agena airframe, propulsion and guidance and control subsystems on WS-117L. A reduction in force (RIF), coupled with an official refusal to release him from his current duties to pursue a three-year doctorate at MIT compelled Lieutenant Herther to leave active duty on 10 December 1957.

He went to work immediately for the recently formed Itek Corporation, as its first employee, and finalized a concept using horizon sensors for gas-jet on-orbit stabilization of the proposed Corona/Discoverer reconnaissance satellite. Rejecting the CIA's original spin stabilization concept, Mr. Herther proposed three-axis, earth-centered stabilization based on the Agena flying horizontal with horizon sensor updating of the ascent gyro control system of the WS-117L vehicle on which he had worked while in the Air Force. At a key briefing in early 1958, he convinced CIA decision makers to consider the manageable risk versus high potential of the Itek three-axis stabilized camera concept. By mid-1958, Itek had won the subcontract for the Corona camera system and Mr. Herther turned his attention to the short-lived Air Force SAMOS E-5 that evolved into the NRO's simplified E-5 or Lanyard satellite program. He remained with Itek until February 1969 working on a variety of optics-related projects including one to develop a large mapping lens and prototype camera for NASA. Over the years, hundreds of USAF, NASA and other payloads would orbit successfully using Mr. Herther's three-axis stabilization.

In March 1969, Mr. Herther founded Iotron Corporation specifically to develop and produce the world's first fully automatic radar plotter for merchant ship collision avoidance. He was system engineer on the company's DIGIPLOT ship anticollision system and its AUTO-MATE computerized radio navigation system, which integrated signals from Transit satellite, Loran C, and Decca with a fuel-saving adaptive autopilot. After Iotron ceased production in 1982, Mr. Herther joined MITRE Corporation in Bedford, Massachusetts, to help design and develop advanced radar, communication and intelligence systems for the military and National Security Agency.