

Biography for Gary Stevens

Gary Stevens worked in the Communications Systems Research Section of the Jet Propulsion Laboratory at the California Institute of Technology from 1967 until his retirement in 2007. Since receiving his BSEE degree in 1974, he has developed RF systems and instrumentation for a number of ground and spacecraft applications at JPL.

Mr. Stevens is a senior RF/microwave design engineer. He is well versed in theory and technique and has successfully designed and developed numerous RF and microwave components and systems.

His more notable accomplishments at JPL include:

- Co-developed a spread spectrum, low power wireless communication and command system for a highly miniaturized battery operated active-pixel wireless camera. (Patented)
- Developed low power RF subsystems and components for use in low temperature (-100C), high shock (80,000G) space applications. These designs were integrated into the twin DS-2 spacecraft that went to Mars.
- Developed a major RF subsystem in a K/Ka band transceiver that successfully demonstrated the viability of wide-band land mobile-to-satellite and aeronautical mobile-to satellite communications at 20 and 30 GHz.
- Developed a microstrip-matched 70 Watt 1.6 GHz linear amplifier to support land mobile/satellite experiments.
- Cognizant Engineer for two of the nine RF/microwave units within the highly successful Magellan spacecraft's Synthetic Aperture Radar that mapped the surface of Venus.
- Developed an Allan Variance Stability Analyzer that measured the frequency stability of the world's most stable atomic frequency standards/clocks.
- Co-developed an S- and X-band planetary radar receiver for the Goldstone Solar System Radar that provides precision tracking and high resolution surface mapping of comets, asteroids, and the planets, their moons.
- Received NASA recognition and a NASA monetary award for co-development of a general purpose, high-isolation broadband RF amplifier that became a commercial product.

From 1978 to 1984 Mr. Stevens provided consulting and engineering services. In this capacity he designed and developed a series of professional, studio-quality wireless microphone transmitters and receivers for a world-leading manufacturer and supplier of these systems. He was responsible for several innovations that were integrated into these systems including:

- Audio signal linearization in receiver circuits to compensate for unavoidable transmitter nonlinearities.
- Developed the split-case handheld microphone/transmitter that eliminated the external, rigid or dangling wire antennas from these units (a concept now employed by all leading manufacturers of professional wireless microphone systems).
- Developed an RSSI-switched, spatial-diversity receiver system employing multiple antennas and RF front ends to virtually eliminate the deleterious effects of multipath reception in enclosed soundstages and auditoriums.

In 1984 Mr. Stevens founded Radiolab, Inc. and served as President of the company until 1992. Through this consulting company he:

- Designed, developed and delivered frequency-hopping spread spectrum UHF transceivers for secure, airborne voice communications.
- Developed RF and microwave frequency synthesizers designed for various low phase noise and frequency-hopping applications.
- Developed key systems and technologies incorporated in aircraft emergency lighting systems which now fly in commercial airliners around the world.
- Provided consultation and design recommendations for ELF air-to-submarine communication system (USAF contract).
- Developed an earth terminal UQPSK modulator for a satellite-based differential GPS distribution system that supports precision farming throughout the continental US.

Gary is a skilled and motivated problem solver; a technologist who has established a long track record of highly successful engineering projects.