



J. Leland Langston



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Engineering Fellow and Chief Technical Officer
Civil Communications Systems, Raytheon Company

Leland Langston joined Raytheon Company in 1971, and has held a wide range of challenging engineering positions, with both technical and management responsibilities. He has made significant contributions in many areas for both military and commercial systems. He is currently an engineering fellow at Raytheon and Chief Technical Officer (CTO) for Civil Communications Systems. His recent assignments include development of wireless networks for civil communications systems for Homeland Security.

Langston is the chief architect and system engineer for the Emergency Communications Systems, including the Quad City Pilot. These systems are to be used by federal, state and local governments as well as the National Guard. Other recent assignments include Milstar support, Transformational Communications Satellite advanced engineering and development, C4ISR system engineering, Joint Blue Force Tracking system engineering and business development support for communications systems, including AEHF and commercial satellite communications.

Langston graduated from Southern Methodist University with a bachelor's degree in electrical engineering. He worked 10 years for Collins Radio Company on projects including commercial microwave systems and the Apollo Lunar Landing program. After joining Texas Instruments in 1971, he led development work for data storage subsystems on NASA's Mariner Venus-Mercury, Viking Mars Lander and the Voyager missions. For his work on these programs, he received numerous awards including NASA's Public Service Award Medal in 1981. As a system engineer, he contributed to the development of such military programs as ANDVT, Mk XV IFF and Integrated CNI avionics systems. Langston contributed to Texas Instruments' development of Digital Signal Processing technology by developing applications in communications for DSP chips, including a patent application for a discrete multi-tone modem using FFT and Inverse FFT algorithms executed on a DSP chip. He also led development efforts for the application of DSP technology to military communications systems including digital beamforming using Residue Number System algorithms and advanced spread spectrum modems. From 1992 to 1996, he was the chief engineer for the development of Local Multipoint Distribution Systems (LMDS) which led to the FCC allocation of a band of MMW frequencies for commercial broadband wireless access systems. He was the chief technical officer for Raytheon's commercial Crossspan wireless access systems unit from 1998 to 2000. Langston has written numerous technical articles and holds several patents in the field. He has been a senior member of the IEEE since 1984 and was the chairman of the IEEE 802.16.2 task group responsible for the development of recommended coexistence practices for Broadband Wireless Access systems from 1998 to 2000. Langston is a registered professional engineer, and a member of the ASCE, the American Astronomical Society, the Space Foundation and the National Society of Professional Engineers.