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Nathaniel McCaffrey's experience on Government and Military Projects

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Highlights

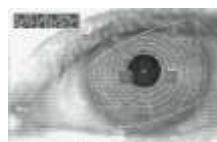
- ✓ expert in complex high speed electronic imaging and communications systems
- ✓ US Citizen with inactive Top Secret (TS/SCI) clearance
- ✓ track record winning and leading government programs
- ✓ PhD research in hyperspectral imaging
- ✓ awarded 20 US patents (26 additional patents pending)
- ✓ built and fielded space based platforms to MIL-SPEC quality standards and regulations

Sarnoff recognizes Nathaniel McCaffrey for on-time delivery of seven state of the art IR cameras to the US Government for missile range applications and for delivering the first system within nine months of contract award.



Rugged high frame rate MWIR thermal tracking system (White Sands)

- Several surveillance cameras used in portable and UAV mounted platforms.
- Early work in silicon based SWIR/LWIR detectors utilizing strained Si and Si:Ge.
- Thermographic system for NASA Mach 30 wind tunnel test of X-30



References

available upon request

Overview

Nathaniel McCaffrey has been developing advanced electro-optic systems to support US Government missions for over 15 years. He has provided increasingly responsible leadership roles on projects to support DARPA, NASA, USG, US Army, NRO and friendly government for UGV, UAV, satellite, gun sight, covert biometric, missile guidance and intercept and perimeter protection systems.

Guided by integrity, the effective and reliable systems he and his teams have developed support warfighters with both close range and long standoff all weather sensing. His experience in commercial product development and in highly regulated medical and automotive applications provide critical advantage and value for next generation programs with COTS and dual use integration.

Program Successes

- Development of a set of high speed visible cameras (2.3 GPix/sec) for the US Army for deployment at White Sands to track missile and missile interceptor tests. These high resolution ruggedized cameras required reliable high speed video communication to simultaneously communicate across the range to the command post. A set of seven MWIR cameras with low NEDT were designed to augment the visible suite with FLIR sensing.
- Design and implementation of an early hyperspectral MWIR imaging radiometer (1991) for detection of chemicals over a scanning area and for the determination of rapidly changing temperature profiles. This was a pioneering design utilizing tellurium based AOTF filtering.
- Development of very high resolution (>20MPix) and broad spectral range optics (Vis/NIR/MWIR/LWIR) for space based imaging applications.
- Design and test of a high resolution TDI CCD system for aerospace reconnaissance.
- Verification and validation plan and implementation for a star tracker navigation and stabilization platform on a fielded satellite. I was responsible for compliance to overall project, MIL-SPEC and space requirements and quality systems.
- Developed and won programs at DARPA to develop system on a chip ICs for bomb damage assessment, remote surveillance and hyperspectral imaging. I was the technical lead on these programs. The BDA chip required operation at over 30,000G shocks.
- Worked with Night Vision Lab (USA Ft. Belvoir) on several advanced imaging detectors and detector materials including nanotech based imagers and cantilevered MEMS LWIR devices.
- Lead on electronic development of remote and covert biometric acquisition for programs in Homeland Security and commercial banking projects.