

**Abstract ID:** 9960

**Title:** Accurate and Safe Alternative Targeting Solution for Man Portable Rocket Weapon

**Abstract Text:** Relevance: The Serpent Multipurpose Assault Weapon (SMAW) II Program provides the cutting edge in fire-control technology to a highly-effective, man-portable assault weapon under the direction of Nammo-Talley Defense Systems. For many years, the Department of Defense has relied on direct fire rocket weapons that the soldier or marine must fire with marginal accuracy and the potential for harm to friendly soldiers due to backblast pressure. The current SMAW, in the Marine Corps inventory for over 20 years, requires the Marine gunner to expose himself and fire tracer rounds from a spotting rifle. This solution, using 1920's technology, exposes the Marine to hostile fire, lengthens his en-gagement time, and is still prone to error. It requires a cumbersome weapon, a supply of spotting rifle bullets as well as rocket munitions, and then demands that the Marine make complex mechanical sight adjustments to achieve a marginal level of accuracy. Raytheon and Vectronix are developing a unique, lightweight, modern launcher solution that decreases engagement time, logistical burden and complexity of operation, enhancing accuracy and Marine safety. Accurate range-to-target data, one of the core competencies of Vectronix, is at the heart of this leap forward in Marine capability.

Objective of Presentation: The objective of this presentation is to describe utilization of the latest Vec-tronix Laser Range Finder technology designed in collaboration with Raytheon Missile Systems. We report on the latest developments of the Raytheon/Vectronix Serpent, a man-portable Shoulder-launched Multipurpose Assault Weapon. The Vectronix 5020 LRF allows for a rapid, safe, non-detectable method for accurate ranging of the target. This combines with the Raytheon sight and bal-listic computer to create a system that minimizes the user's exposure, provides automatic computation of the ballistic solution to hit a 1x2-m target at 300 meters, and allows the gunner to match the solution to the selected round with the push of a button.

This technology not only provides these solutions; it also lightens the burden the Marine carries in the field by over 4 pounds while providing a much more accurate and non-detectable targeting system.

Content: The Serpent system will be of a modular design. The system consists of a launch tube with electronics Fire Control Assembly, a Medium Weapon Thermal Sight, and a Vectronix laser range finder. The Serpent Laser Range Finder (SLRF) integrates the necessary electronics and optics in a compact, environmentally robust enclosure to measure distance to various targets. The SLRF is a modular subassembly of the Serpent and will be controlled by the Serpent electronics via a serial data interface.