Multiple Weapon Control Sight

ONR Program Code 03I

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At a Glance

What is it?

- The Multiple Weapon Control Sight (MWCS) is an infantry weapon fire control unit designed to provide ballistic fire control for a number of weapon systems. It mounts to the side of a weapon and includes a range knob and LED display screen.

How does it work?

- The programmable sight uses an on-board ballistic library to provide azimuth and elevation aiming cues for the warfighter. Marines can select a particular weapon system configuration and ammunition from a user menu, and the sight will provide the appropriate aiming cues.

What will it accomplish?

- The unit is lighter, smaller and more rugged than the current fire sight, providing Marines with improved accuracy over the full range of the weapon system. A range knob ensures proper orientation of the weapon, increasing the probability of a first-round hit, and provides Marines with an improved day and night fire control solution for a number of infantry weapon systems.

Point of Contact

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Responding to the U.S. Marine Corps request to improve the fire sight on the M203 grenade launcher, the Office of Naval Research's (ONR) TechSolutions Program partnered with the Marine Corps Forces Pacific Experimentation Center to develop the Multiple Weapon Control Sight (MWCS). Although MWCS was originally created for use on the M203 grenade launcher, the unit can be employed on a number of weapons.

MWCS provides Marines with an improved day/night fire control capability for a number of infantry weapon systems, such as mortars and automatic grenade launchers. This allows Marines to effectively engage targets during day and night operations. This multiweapon capability decreases the number of different sighting systems that warfighters need to learn and lessens the burden on the supply and maintenance infrastructure by reducing the number of separate fire control units.

To employ the MWCS, the Marine points his or her weapon at the target and dials in the distance using the range knob. The unit adjusts the firing angle and cant of the weapon to the correct position, increasing probability of a first-round hit.

In order for the sight to orient itself to the correct angle and guide the Marine in aiming his or her weapon accurately, the MWCS needs to be programmed with the correct trajectories. Live-fire testing was completed at the Aberdeen Test Center, during which, the weapon was placed on a fixture and fired at various angles The Firing Tables and Ballistics Division at the Army's Armament Research, Development and Engineering Center (ARDEC) used the trajectory, accuracy and dispersion data to create a firing table. L3 Insight programmed the table into the MWCS and employed it on the M203 grenade launcher. ARDEC repeated the trajectory, accuracy and dispersion test using the MWCS on the M203 grenade launcher to ensure the MWCS functioned properly.

The MWCS can be mounted to the side of various weapons and requires zero modifications to the weapon or its ammunition. The Marines have tested and evaluated the upgraded sight in the field and their response has been positive.

TechSolutions links warfighters to the government science and technology community to help develop needed technologies as quickly as possible. Sailors and Marines are encouraged to submit requests via the TechSolutions Website at https://www.onr.navy.mil/techsolutions (no account needed). Their goal is to have a solution prototype in the hands of a requesting Sailor or Marine within 12-18 months.