

M2/M3A2/A3 BRADLEY FIGHTING VEHICLE, (MILES XXI)



Training Category/Level Utilized:
Combat Arms/Level 3

Logistic Responsible Command, Service, or Agency:
PEO STRI

Source and Method of Obtaining:
Only used at CTCs, not available for use at other locations.

Purpose of Trainer:
This device is a component of the Multiple Integrated Laser Engagement System (MILES). MILES XXI is a family of training systems, accurately, and in real time, simulates the effect of direct and indirect fire (artillery, nuclear, or chemical weapons, and mines) as they would affect a vehicle/soldier in combat. This permits realistic combat training without the hazards of live ammunition. MILES XXI provides the capability for two-sided, real-time tactical engagement at unit sizes up to battalion and for realistic casualty assessments. Firing the weapon simulators is much like firing the actual weapons. However, instead for firing live ammunition, these simulators transmit harmless laser beams. To allow the simulation to be as real as possible, the rifle and machine guns use blank ammunition, and the missiles and main gun use weapon effect simulators to simulate the noise, blast, and smoke of the actual weapons.

Functional Description:
The MILES XXI family employs eye-safe lasers and microelectronics to realistically simulate the firing capabilities of combat vehicles, rifles, machine gun, and other direct-fire weapons. Small battery operated laser transmitters, which attach easily to conventional field weapons, allow ground troops to fire coded (to distinguish range and killing power of the specific weapons) invisible laser pulses instead of live ammunition. Receiving detectors, located on opposing troops and vehicles, pick up the laser pulses and instantly provide audio/visual

indications of a kill, hit, or near miss. Kill indicators on personnel or vehicles will disable the victim's weapon. The hit and kill probabilities are similar to those achieved when using live ammunition.

The Combat Vehicle, Simulator System, Firing, Laser on the M2/M3 Bradley Fighting Vehicle are equipped with a laser transmitter that is fired using normal operating procedures. Special detector belts on the vehicle's exterior sense opposing force fire. Crewmembers wear man-worn devices that detect incoming fire against them.

Outgoing Direct Fire from the vehicle main gun, coax, and missile is simulated by "firing" coded laser beams from laser transmitters mounted on the front of the turret. Each weapon (missile, 25mm Main Gun, and Coax Machine Gun) has a different MILES XXI code. Muzzle flash from the 25mm main gun is simulated by the FLASHWESS, a high-intensity light mounted next to the laser transmitter, which flashes each time the main gun fires. The fire, smoke, and backblast of a weapon firing is simulated by one of four ATWESS devices that are part of the Signature Simulator, which fires pyrotechnic cartridges each time a simulated weapon is "launched".

Incoming fire, the MILES XXI system simulates the effects of both direct and indirect fire engagements. Direct fire is simulated by receiving coded laser beams "fired" from laser transmitters. Indirect fire (artillery, nuclear, chemical, and mines) is simulated by receiving radio signals transmitted from the Mission Control Station (MCS). When incoming fire is received, the console will determine whether your vehicle sustains a NEAR MISS, HIT, or KILL. The visual message on the console will display Miles Code and Player Identification (PID). The Miles Code is a 2-digit MILES XXI code number used to identify simulated weapons. The PID is a 4-digit number that is a unique Player Identification of the player engaging you. This event information is stored in the console and downloaded after exercises for use in After Action