AVIATION TACTICAL ENGAGEMENT SIMULATION SYSTEM (TESS)

Live Fire Gunnery and Force-on-Force Simulated Training

U.S. ARMY PROGRAM OF RECORD SINCE 1998

LIVE TRAINING

Aviation TESS is used to safely train personnel in the tactical operations of the AH-64 Attack Helicopter. Live training includes cooperative force engagements, evasive procedures, and the use of Aircraft Survivability Equipment (ASE).

Player and event data is transmitted in real-time for tracking and recording on the Modular Mobile Command and Control (MMCC) to provide situational awareness, player-to-player communications, engagement adjudication, Real-Time Casualty Assessment (RTCA) and After Action Review (AAR).

WEAPON SIMULATION

Aviation TESS enables pilots to safely perform gunnery training without firing a round. Weapon systems acquire and engage TESS instrumented targets. TESS uses MILES Laser and Geometric Pairing to adjudicate all weapon engagements. SAL Missile and 30mm Gun engagements are simulated with MILES eye-safe lasers. RF Missile and Rocket engagements are simulated with Geometric Pairing. Pilots receive visual and audio cues in real-time.

AIRCRAFT SYSTEM

Aviation TESS is comprised of an Aircraft System that integrates with range infrastructures, command and control, and ground target training systems.

Aviation TESS consists of an “A” kit that is permanently installed during aircraft production, and a “B” kit that is added to the aircraft for training exercises. The “A” kit includes the ASMODIM tray assembly and modified software in the weapons display and systems processors with cable connection provisions. The “B” kit includes the ASMODIM, TESS Gun Control Unit (TGCU), TESS Training Missile (TTM), and GPS and Telemetry antennas.

Live Fire training uses only the “Back-half Kit” and provides real-time Position/Location and AAR.

ADVANCED SMODIM

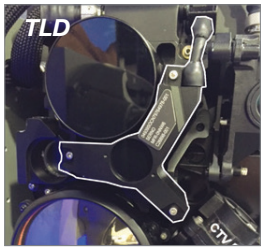
The Advanced Smart Onboard Data Interface Module (ASMODIM) integrates with air and ground vehicles to provide weapons systems training and collective engagements. It interfaces electronically to the aircraft weapons systems to provide a training mode, weapons emulation, and a simulated weapons inventory. The ASMODIM computes MILES and Geometric Pairing algorithms for all Longbow weapon engagements. Exercise data is actively monitored, recorded and transmitted to the EXCON for analysis and AAR.

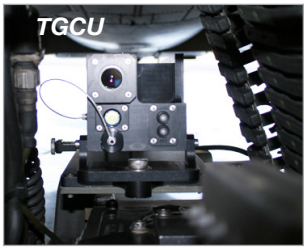
ASMODIM

The ASMODIM is a replacement to the legacy Modular SMODIM due to parts obsolescence. It is fully backward compatible with Aviation TESS and includes increased processing capacity and performance and other capability improvements.

Aviation TESS provides the MILES player interface to “kill and be killed” while training at CTCs, Unit Home Stations and Deployed Locations

AVIATION TESS B-KIT COMPONENTS





TRAINING LASER DESIGNATOR (TLD)

The eye-safe Training Laser Designator (TLD) is the newest development for TESS. It is embedded within the Phase III Modernized Day Sensor Assembly (M-DSA) for the AH-64D/E M-TADS/PNVS. The TLD is a self-contained unit used for transmitting MILES coded messages to simulate weapon engagements during training exercises. It eliminates the ESLRF/D and AIBS. This update will be applied to all new aircraft by Lockheed Martin Missiles & Fire Control (LMMFC).

TESS GUN CONTROL UNIT (TGCU)

The TGCU is mounted within the 30mm Gun Turret and interfaces with the aircraft weapon system to drive the laser for weapon engagements.

TESS TRAINING MISSILE (TTM)

The TTM mounts onto a pylon launcher and interfaces with the aircraft weapons processor to enable a training mode and weapons emulation. A FlashWESS provides visual signals of weapon firing events, and the Aircraft Kill Indicator (AKI) provides visual indication of RTCA status of the aircraft platform.

TESS Battalion Set for Live Collective Training

Modular Mobile Command & Control (MMCC)

RF Telemetry Repeater

Stationary Target

Ground Target Set

Individual, Crew and Collective Training for Tactical Gunnery Operations

FEATURES & BENEFITS

- U.S. Army Program of Record since 1998
- DO160 FAA AWR Certification
- Integrates with other LVC systems including manned-unmanned Apache/UAS

COLLECTED DATA

- Aircraft position/location
- Aircraft status, heading, velocity
- Sensor heading
- Sight azimuth
- Weapon inventory, events
- Aircraft Survivability Equipment (ASE) status
- Real Time Casualty Assessment (RTCA) status

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