TSS
Electro-Optical/Infrared Targeting System for the U.S. Marine Corps AH-1Z
Target Sight System (TSS)

TSS is the multi-sensor electro-optical/infrared (EO/IR) fire control system (AN/AAQ-30) for the U.S. Marine Corps AH-1Z attack helicopter. It has a large-aperture midwave forward-looking infrared (FLIR) sensor, a color TV, a laser designator/rangefinder (with eyesafe mode) and an on-gimbal inertial measurement unit integrated into a highly stabilized turret. The turret mounts to the nose of the aircraft via the Lockheed Martin-developed aircraft interface structure. The TSS provides the capability to identify and laser-designate targets at maximum weapon range, significantly enhancing platform survivability and lethality.

Features

- 8.55-inch aperture, midwave staring FLIR with four fields-of-view for maximum image resolution and long-range performance
- A robust multi-mode multi-target tracker
- Gimbal stabilized to <15 microradians
- On-gimbal inertial measurement unit for reduced image blur due to jitter and precise line pointing, target geo-location, and multi-target tracking
- Advanced image processing to enhance target recognition at extended ranges
- High magnification, continuous zoom, color TV with field-of-view matched to the FLIR
- State-of-the-art 640 x 512 InSb, low-noise-equivalent delta temperature, high-modulation transfer function detector with a high-reliability cooler
- Versatile modular architecture for future growth

FLIR images of a tank show increasing levels of magnification from wide field-of-view to very narrow field-of-view with enhanced image processing employed.

TSS provides long-range electro-optical surveillance, detection, and identification capabilities for the AH-1Z.