



Terrain and Traffic Collision Avoidance System

- Integrated safety avionics system with TCAS II and Class A TAWS
- Timely TAWS alerts based on flight path prediction and the aircraft's ability to climb
- Terrain Advisory Line (TAL) provides enhanced situational awareness allowing the pilot to resolve potential terrain conflicts before they develop into a dangerous situation
- Patented "Avoid Terrain" alert provides additional information to the pilot when the climb capability of the aircraft is insufficient to clear terrain
- Landing Convergence protects all the way to runway
- Industry's most advanced TCAS preventing traffic incidents in more than 7,000 aircraft
- Certified and installed on commercial and military aircraft operating around the world

The T²CAS[®] combines an aircraft climb performance-based Terrain Awareness Warning System (TAWS) with the industry's leading traffic alert and collision avoidance system, the TCAS 2000. T²CAS is the only TAWS to give avoidance alerts based on actual aircraft performance data, virtually eliminating nuisance warnings.

The system can be applied to any air transport, regional, business or military aircraft to avoid Controlled Flight Into Terrain (CFIT), providing operators with more time to clear terrain with an increased margin to maneuver. T²CAS is available with optional Windshear and GPS.

By combining two required safety systems, T²CAS reduces the number of spares needed. A common part number is applicable to both analog and digital aircraft. All aircraft-specific parameters are defined in a software-only component that allows the T²CAS line-replaceable unit (LRU) to be generic across all aircraft.

30 Years of TAWS Experience

The T²CAS terrain and traffic collision avoidance system combines the industry-leading TCAS 2000 with Thales' 30 years of expertise in high performance terrain-avoidance systems dating back to the Mirage Fighter development of the late 1960s.

Smaller, Lighter TAWS

Add TAWS without adding an LRU if the TCAS 2000 is already part of your safety avionics package. This provides aircraft operators with lower cost of ownership without having to allow for additional space and weight. The TCAS 2000 is unchanged from the existing ARINC-735A characteristic in terms of operational characteristics and I/O interfaces. The TAWS function uses connector pins that were previously unused by the TCAS.

Certified

ACSS holds many T²CAS supplemental type certifications (STCs) for aircraft types from business jets to air transport category aircraft.

T²CAS[®]: Simply Safer

TAWS Features

Basic modes:

- Modes 1 and 2 are available upon customer request. Because these modes tend to prompt nuisance warnings, ACSS designed its TAWS to suppress these modes while still delivering the highest levels of safety.
- Modes 3, 4 and 5
- Callouts and bank angle modes

Collision Prediction & Alerting (CPA) mode:

- True look-ahead capability with real-time analysis based on predicted aircraft flight path and knowledge of terrain environment.
- Advanced and reliable ground hazard warning and caution.
- Alert computation according to instantaneous aircraft climb performance virtually eliminates nuisance warnings.

Consolidated Altitude:

- Consolidated Altitude is an algorithm in the ACSS TAWS that corrects for altitude and/or lateral position errors, as well as terrain database coding errors.

Database:

- Thales-owned database is available to customers free of charge and uses multiple database sources, including state-of-the-art Space Shuttle Mapped (SRTM) data and digitized maps (100% WGS-84 referenced terrain and airport data). The database is updated annually.
- Available on Compact Flash (CF) Card and aircraft loadable via CF or ARINC 615 Dataloader (download from web beginning Q2 2005)
- Airport database spans the globe
- Obstacle alerting (option)
- Airborne Windshear warning system (option)
- Navigation-quality GPS (option)

Plus:

- Situational terrain display
- Variable turn angle
- Increased reliability of combined system

Certifications

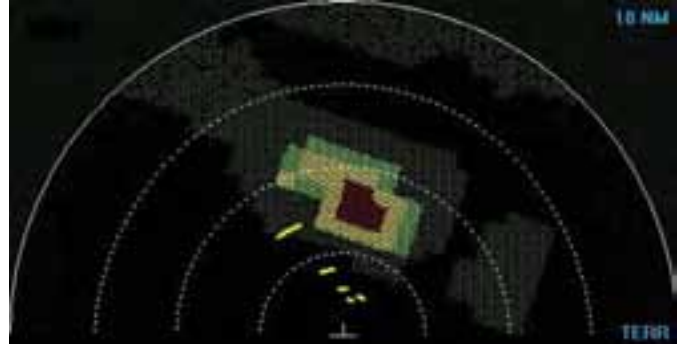
TAWS TSO-C151b, Class A
GPS TSO-C129a, Class B1/C1
TCAS TSO-C119b

Specifications

Model	TT-950	TT-951	TT-952
Part Number	9000000-10003	9000000-55003	9000000-20003
Size	6 MCU	4 MCU	6 MCU
Weight	16.8 lbs.	14.7 lbs.	17.4 lbs.
Power	80 watt max	70 watt max	90 watt max
Cooling	Per ARINC 600	Internal Fan	Per ARINC 600
Environmental	DO-160D	DO-160D	DO-160D
Software	DO-178B	DO-178B	DO-178B
GPS	No	No	Yes

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This technical data and software is considered as Technology Software Publicly Available (TSPA) as defined in Export Administration Regulations (EAR) Part 734.7-11.



The Terrain Advisory Line is the first alert, long before potential danger.

About ACSS

Aviation Communication & Surveillance Systems (ACSS), an L-3 Communications & Thales Company, is a leader in safety avionics systems that increase safety and situational awareness for aircraft operators and the flying public. ACSS products include the TCAS 2000 traffic alert and collision avoidance system; MASS[™], an enhanced TCAS for military operations; a family of Mode S transponders; the T²CAS, a combined traffic and terrain collision avoidance system; TAWS+, a stand-alone terrain awareness warning system; and Dlink+, a communications management unit, VDL Mode 2 digital radio, and control display unit in one package. More than 40,000 units of ACSS product are operating in commercial, corporate and military aircraft.

Worldwide Customer Service & Support

ACSS products are based on proven technology to provide you exceptionally high reliability and simplified maintenance. Support for engineering, logistics, commercial and repair support are available through our worldwide network of Customer Service Managers and Support Centers.

Customer Services are provided to aircraft manufacturers and operators. On-site assistance is available to support system integration, troubleshooting, analysis, rework, retrofit and repair of ACSS equipment. Services include AOG/Emergency Services, Repairs, Maintenance Agreements, Technical Support, Publications, Training, and Database Service.

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