

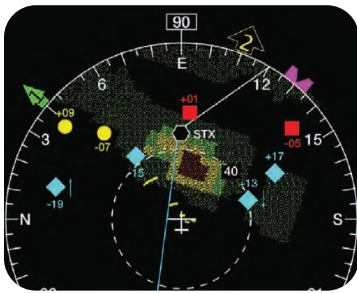


T³CAS Traffic collision avoidance system

Advanced safety and ADS-B functionality



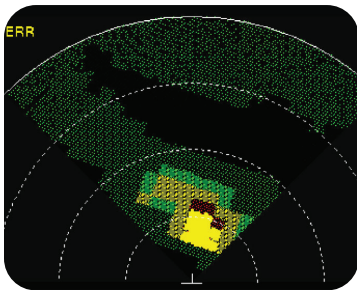
The ACSS T³CAS is an all-in-one surveillance platform that includes aircraft collision, airborne traffic situational awareness with spacing applications, terrain avoidance and transponder.



TCAS



ADS-B APPLICATIONS



TAWS



NEXTGEN TRANSPONDER

The T³CAS provides operators with proven performance and reliability of TCAS, Terrain Awareness Warning System (TAWS), Mode S and Automatic Dependent Surveillance Broadcast (ADS-B) functions with the benefits of reduced weight, size, power consumption and costs that comes from an integrated platform. It contains a TCAS II with Change 7.1 software, performance-based Class A TAWS, Mode S Transponder including DO-260B ADS-B Out, and ADS-B IN capability.

The T³CAS uses an integrated RF transceiver module; therefore only requiring a single antenna for the TCAS and Mode S functions, reducing weight and cabling. It delivers full functionality in both 6- and 4-MCU sizes, and utilizes the existing TCAS tray and connectors.

Airlines choose the T³CAS for its proven functionality, lower acquisition and ownership cost – and increased safety and efficiency.

Integrated Surveillance Solution

FLEXIBLE FUNCTIONALITY

T³CAS is a single Line Replaceable Unit (LRU) with the flexibility to host any combination of these functions:

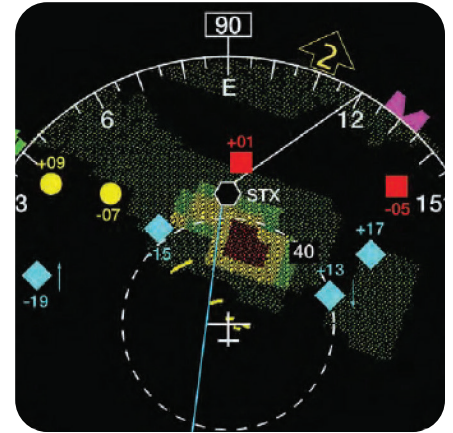
- > Traffic Alert and Collision Avoidance System (TCAS)
- > Terrain Awareness Warning System (TAWS)
- > Mode S Transponder with Automatic Dependent Surveillance – Broadcast (ADS-B) Out
- > Airborne Traffic Situation Awareness (ATSAW) on Airbus Platforms:
 - > Applications include AIRB, VSA and ITP
- > SafeRoute+ Retrofit solution
 - > Applications include AIRB, CAVS, ITP and I-IM

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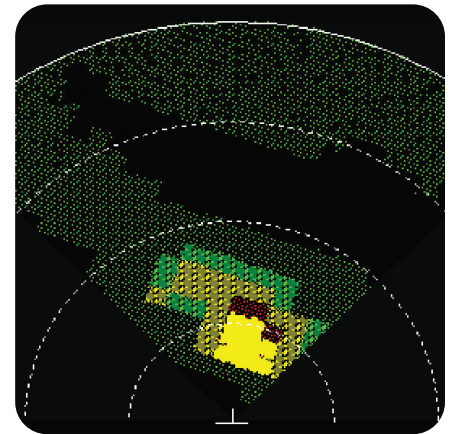
TCAS

The TCAS II products provide situational awareness and collision avoidance protection on more than 15,000 aircraft worldwide. The TCAS is built on the technology and expertise that has made these products the industry standard in reliability and performance. The T³CAS continues the tradition of providing the highest bearing accuracy and range capability available. The surveillance algorithms provide outstanding aircraft tracking performance, and the Collision Avoidance Logic includes the most current safety upgrades (TCAS Change 7.1). The T³CAS also implements ADS-B technology with A3 receiver sensitivity, enabling intruder aircraft tracking at ranges of 160 NM and the implementation of TCAS Hybrid Surveillance.



TAWS

The T³CAS comes equipped with the Class A Terrain Awareness Warning System (TAWS) integrated into the unit, which provides warnings based on the unique performance capability of an aircraft. It can be applied to any air transport, regional, business or military aircraft to avoid Controlled Flight Into Terrain (CFIT) incidents, giving operators the appropriate amount of time to clear terrain with a greater margin to maneuver. When the system detects that the aircraft does not have sufficient climb capability to clear the terrain, it generates an "Avoid Terrain" alert. The Terrain Advisory Line is a patented feature that indicates an impending alert should the aircraft continue on its flight path. Low-RNP (Required Navigation Performance) capability is also certified in the T³CAS for long-range and single aisle Airbus aircraft.



MODE S TRANSPONDERS (ADS-B OUT)

The Mode S transponders are certified to DO-260B, and meet the ADS-B Out mandates for impending airspace initiatives throughout the world. DO-260B enables transmission of ADS-B information about an aircraft's position, speed and intent. ADS-B is the cornerstone surveillance technology of the FAA's NextGen and Europe's SESAR airspace initiative. Mode S transponders from ACSS incorporate FAA-specified diversity, allowing simultaneous operation with both top and bottom transponder antennas optimizing signal strength and reducing multi-path interference.



DISCOVER MORE:
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ADS-B IN APPLICATIONS

T³CAS can host SafeRoute+ or Airbus' ATSAW ADS-B In Applications that increase safety, efficiency and throughput for flight operators. These functions offer fuel savings that result from flying optimized, more predictable routes with consistent spacing and fewer vectors.

SafeRoute+ is a simple software upgrade. The ADS-B In applications execute on the existing Navigation Display (ND), Multi-function Control and Display Unit (MCDU), as well as the new ADS-B Guidance Display (AGD) from Acron Aviation. SafeRoute+ consists of four selectable applications that allow airlines to install ADS-B In solutions that align best with their operations:

- > Enhanced Airborne Traffic Situational Awareness (AIRB)
- > CDTI-Assisted Visual Separation (CAVS)
- > Interval Management Spacing (I-IM)
- > In-Trail Procedures (ITP)



The Airbus ATSAW applications are available on new production aircraft equipped with T³CAS or for existing aircraft through a service bulletin and include:

- > Enhanced Airborne Traffic Situational Awareness (AIRB)
- > Visual Separation on Approach (VSA)
- > In-Trail Procedures (ITP)

T ³ CAS	4-MCU	6-MCU
Dimensions:	7.6" (H) x 4.9" (W) x 15.8" (L)	7.6" (H) x 7.5" (W) x 15.3" (L)
Weight:	16.5 lbs. (7.5 kg)	17.6 lbs. (8.0 kg)
Cooling:	Internal Fan	Requires forced air cooling per ARINC 600
Electrical:	115 VAC and 28 Vdc / Power Consumption 100 watts nominal	
Performance:	Sea level to 55,000 feet / -55 to 70 degrees C / ADS-B Receiver Availability > 95%	
Data:	Data Loading UDP Protocol based Ethernet connection compliant with ARINC 615A	
Antenna:	TCAS Directional Antenna P/N 7514081	
Certifications:	TSO Transponder (C112d), Windshear (C117a), TCAS with Hybrid Surveillance (C119c), TAWS (C151c), ADS-B & TIS-B (C166b), Environmental DO-160E, Software DO-178B Level B, ADS-B Operation DO-260B 1090 MOPS for extended range, SafeRoute TSO ADS-B in (C195b)	

SAFEROUTE+ FEATURES

CAVS

- > Enables continual visual approach in low visibility
- > Reduces go-arounds
- > Enables optimum spacing
- > Enables higher runway throughput
- > Optimizes airport efficiency
- > Increases safety

I-IM

- > Reduces Inter-Arrival Time variance

ITP

- > Increases situational awareness of traffic by 100 NM
- > Increases the use of optimal flight levels
- > Improves passenger comfort and safety
- > Reduces CO2 emissions by up to 73,000 tons annually
- > Can save up to 670 lbs of fuel per oceanic flight



TCAS 3000SP is available in 6- and 4-MCU sizes.

T³CAS

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