



SafeRoute

Safety, Efficiency and Cost Savings

SafeRoute™ is a set of Automatic Dependent Surveillance-Broadcast (ADS-B) software applications designed to improve the safety and efficiency of flight operations. SafeRoute's unique capabilities include merging & spacing (M&S) and surface area movement management (SAMM), and are available individually or as a set.

SafeRoute's SAMM application shows the aircraft's location on an airfield and its proximity to other aircraft on the airfield. The software module leverages other technologies already installed onboard the aircraft to display diagrams of runways, taxiways, gates and airport infrastructure, and gives pilots position of other aircraft and alerts them to potential runway incursions.

The merging & spacing function enables aircraft to display information that guides merging maneuvers and spacing behind other aircraft during flight arrival. The improved situational awareness allows pilots to maintain proper sequencing and the data instructs pilots to speed up or slow down to keep a consistent interval between their aircraft and others on approach. This improvement, which helps to reduce radar vectors, along with the capability to perform Continuous Descent Arrivals (CDAs), will save operators hundreds of pounds of fuel with each approach. The system also enables reductions in noise and emissions in the terminal area.

SafeRoute is platform-independent software that can be hosted on ACSS's Surveillance Processor. Its computing power and physical space allows for additional software modules such as TCAS, TAWS, and Mode S Transponder.

SafeRoute builds on ACSS's family of industry-leading products that have helped set new standards in aviation safety.

Builds on ACSS Line of certified ADS-B solutions

SAMM addresses pressing need for improved situational awareness during taxi and takeoff

Merging & Spacing increases efficiency while reducing noise and emissions

Enables Continuous Descent Arrivals

Platform-independent software or host in the ACSS Surveillance Processor

Selected by UPS for fleet-wide installation

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ACSS Surveillance Processor

Physical Size	
Dimensions	4 or 6 MCU
Weight	13.85 lb. (6.28 kg) (4 MCU 28Vdc Only) 15.35 lb. (6.97 kg) (4 MCU 115 VAC & 28 Vdc) 16.08 lb. (7.30 kg) (6 MCU 115 VAC & 28 Vdc)
Mounting	ARINC 600 6 OR 4 MCU Mount
Cooling	No forced air required for 4 MCU (internal fan) Per ARINC 600/404 for 6 MCU
Certification	
Environmental Specifications	DO-160C
Software	DO-178B Level B
ADS-B Capability	RTCA/DO-260A 1090 MOPS extended range operations
ADS-B Receiver	Availability > 95%
Operating Altitude	Sea Level to 55,000 feet
Operating Temperature	-55 to 70 degrees C
Storage Temperature	-55 to 85 degrees C
Power	28 V DC or 115 VAC
Power Consumption	Nominal power consumption 65 watts
Maintenance	Supports OEM Maintenance Computer Interfaces
Portable Data Loader	ARINC 615
Processor Unit	RT-950 or RT-951
Mode S Transponder	RCZ-852 (Business & Regional Transponder) XS-950 (Air Transport Data Link Transponder) XS-950SI (Military Mode S/IFF Transponder)
Antenna	AT 910
Displays	Various
Controls	Various

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REGIONAL, BUSINESS & MILITARY CUSTOMERS

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Surface Area Movement Management

Over the last four years, nearly 1500 runway incursions have occurred at controlled airports in the U.S. The SAMM application provides flight crews with an airport surface map and tracks the movements of their aircraft and other ground and airborne traffic in the terminal area, and alerts crews of potential conflicts. The SAMM module within SafeRoute uses ADS-B and TIS-B (Traffic Information Service-Broadcast) to track other vehicles on the airport grounds. This function would have dramatically reduced or eliminate the number of incursions over the past four years.



SafeRoute gives a yellow warning to this taxiing aircraft to make the pilot aware that the runway is active.



If the pilot ignores the yellow warning and continues onto an active runway, the runway and takeoff aircraft will turn red and an aural alert will be given.

Merging & Spacing

The Merging & Spacing function makes use of onboard aircraft surveillance to provide flight deck spacing commands that allow aircraft to follow one another at the safest, most efficient interval possible from cruise altitude to the runway. These applications ensure more consistent aircraft spacing while increasing capacity and efficiency within the terminal airspace.



Note the aircraft on the far left. It was given instructions to vector off course because it did not have the proper spacing from the lead aircraft for approach. This procedure wastes time and fuel. With the Merging & Spacing functions, aircraft will be spaced far from the destination aircraft so when they come to the merge point, they will have the proper spacing.

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. Products include TCAS 3000 and TCAS 2000 traffic alert and collision avoidance systems; 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 the Dlink+ communications management unit. The ACSS portfolio also includes a suite of automatic dependent surveillance-broadcast solutions for pilots operating in the airport vicinity called SafeRoute™. 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.