



TCAS WITH CHANGE 7.1
AND HYBRID SURVEILLANCE

**Increasing efficiency and
safety in congested airspace**

Efficiency, safety and operational performance for today and the future.

With air traffic expected to double in the next 20 years, airlines want to be sure they have the best safety equipment onboard. Honeywell's CAS 100 Traffic Surveillance System combines industry leading technology, enhanced capability, and superior performance to mitigate the risk of a potential mid-air collision by addressing key safety hazards and providing a clear course of action when a danger is presented.

Honeywell is a pioneer in TCAS development with over 50 years of design and support experience and over 300 million logged departures. The CAS 100 system not only implements necessary safety logic, it improves situational awareness and safety in high density airspace through a more intuitive and informative display of traffic. It is the only TCAS solution available with Hybrid Surveillance technology that uses ADS-B technology to reduce 1090 frequency congestion.

Advanced features of the CAS 100 system also reduce operating costs for airlines through improved system reliability and system flexibility. Software-based upgrades reduce future maintenance costs by enabling operators to easily upgrade their systems to the latest ADS-B requirements without changing hardware.

Airspace Awareness

By actively tracking up to 60 aircraft at distances up to 100 nmi and passively tracking up to 400 aircraft at distances greater than 120 nmi, the system uses the latest in processing technology and ADS-B functionality to provide a variety of aircraft surveillance and identification functions. At the heart of the system is the advanced TPA-100B Traffic Computer processor that was developed to meet the needs of future surveillance and ADS-B initiatives, including Airborne Traffic Situational Awareness applications.

The initial set of ADS-B In applications include*:

- In-Trail Procedures (Oceanic)
- Enhanced Traffic Situational Awareness (Airborne)
- Enhanced Visual Separation on Approach

Future applications include:

- Enhanced Traffic Situational Awareness (Surface)
- Enhanced Visual Acquisition for See & Avoid
- Enhanced Sequencing and Merging (2)
- Enhanced Crossing and Passing Operations

*Available on selected aircraft

Change 7.1

Change 7.1 increases safety and efficiency by changing the collision avoidance algorithms to mitigate the risk of a mid-air collision. When an intruder's non-compliance is identified, Change 7.1 implements a reversal or level-off logic that correctly corresponds to the intruder's response to the situation. Aural advisories have been revised in some cases so it will be less ambiguous. Honeywell's Change 7.1 is available now*, meeting all proposed regulatory actions and improves situational awareness and safety in high density airspace through a more precise definitive algorithm and course of action.



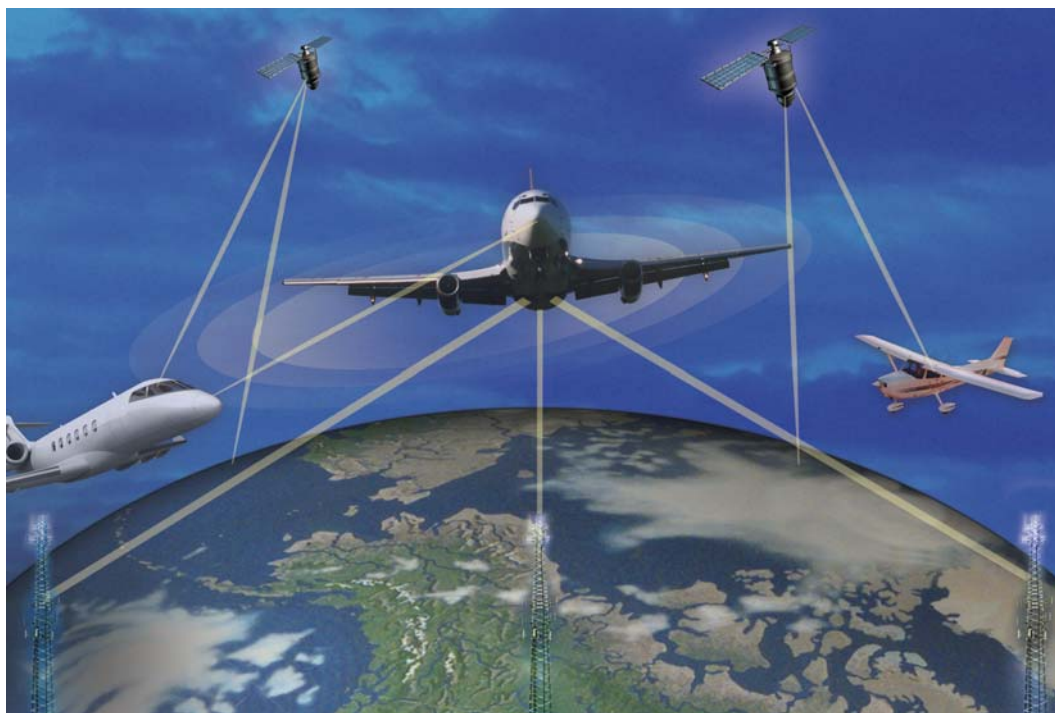
Hybrid Surveillance

Honeywell is the only TCAS solution that offers Hybrid Surveillance, a critical component to future air traffic modernization efforts. Hybrid Surveillance, utilizing ADS-B technology, reduces 1090 MHz frequency congestion by reducing the TCAS interrogation rate, freeing up 1090 bandwidth for future ADS-B applications. Additionally, hybrid surveillance is more robust at longer ranges. Together, these features enable greater safety.

**TSO product available in January-2010*

Cost Effective Operation

Honeywell understands how important new technology and safety is to our airline operators; the TPA-100B was designed to reduce operating costs today, and in the future, in addition to increasing cockpit and route efficiency. ADS-B technology with Hybrid Surveillance and enables greater route efficiency, which lowers fuel burn and reduces maintenance costs. Future ADS-B features and functionality will be available through simple software updates which reduces future maintenance costs and total aircraft downtime. The TPA-100B is offered as a single part number, reducing the necessary spares costs. Together, these features can save operators over \$10,000 annually per aircraft.



Key Benefits

- Enables improved flight safety through more accurate display of aircraft at longer ranges.
- Certified on multiple aircraft platforms.
- 300,000,000 logged departures on over 250 airlines.
- Advanced design improves system reliability.
- Designed to meet the needs of future surveillance and ADS-B initiatives.
- Only TCAS solution with Hybrid Surveillance

System Overview

Comprised of the TPA-100B 6 MCU (or optional 4 MCU) enhanced ACAS/TCAS Traffic Processor unit, 4 MCU Enhanced Mode S Transponders, directional antennas, a control panel and a choice of optional displays, the CAS 100 system provides the following operations for commercial aircraft:

- Automatic Dependent Surveillance Broadcast (ADS-B) Extended Squitter capabilities, including
- Flight ID, velocity, and GPS position
- 120+ nm ADS-B passive surveillance range
- 100 nm active interrogation range
- Hybrid surveillance
- TCAS Change 7.1 compliance
- ADS-B In Airborne Traffic Situational Awareness (ATSA / ATSAW)
 - ITP
 - VSA
 - AIRB
- Meets all current regulatory requirements, ARINC characteristics, and ICAO Standards & Recommended Practices (SARPS)
- Flexible design for emerging user requirements and new technology upgrades.

More Information

For more information on Honeywell's TCAS solutions with Change 7.1, visit www.honeywell.com/Change71Now

Honeywell Aerospace

Honeywell is a leading global provider of integrated avionics, engines, wheels and brakes systems and service solutions for aircraft manufacturers, airlines, business and general aviation, military, space and airport operations.

For more information on Honeywell Aerospace, visit us online at www.honeywell.com/aero

Global Network of Support Services

Honeywell's resources span the Americas, Europe, Middle East, Africa, Asia and the South Pacific to deliver dedicated 24/7 service support. As a world leader in aviation aftermarket services, our global repair centers, logistics network and field services engineering teams are able to quickly repair, supply, and warranty equipment whenever and wherever it is needed.

Honeywell Aerospace

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