

ADS-B



Automatic Dependent Surveillance – Broadcast (ADS-B) offers significant operational enhancements such as improved pilot and controller situational awareness. ADS-B also offers safer air and surface operations through improved surveillance accuracy, update rate and intent information – all at a fraction of the cost of traditional surveillance systems.

The Sensis ADS-B Ground-based Transceiver (GBT) is a low cost, lightweight, easy to install unit that receives and decodes ADS-B messages. The GBT supports all common forms of data link such as ADS-B/TIS-B/FIS-B over UAT and/or Mode S and complies with industry standards. Its design features critical redundancy to ensure availability and fault isolation testing capabilities for easy troubleshooting. Further, the GBT can be configured to support Mode S multilateration for both surface and wide area applications.

Transitioning to ADS-B

Although ADS-B capability will be more widely available in the near future, we are now in a transitional period where an independent mode of surveillance is required until universal equipage is achieved. For safety to be maintained, all aircraft and vehicles must be “visible” to each other as well as to air traffic controllers.

The Sensis ADS-B GBTs can include both ADS-B and multilateration technology and be grouped to form a multi-mode surveillance network which tracks aircraft using both ADS-B and transponder multilateration. This architecture provides high accurate, high update rate surveillance on all transponder equipped aircraft and all ADS-B equipped aircraft. It also provides a seamless transition as more aircraft are equipped with ADS-B, with the immediate benefits of a redundant means of surveillance that is equivalent to, but independent of, the Global Navigational Satellite System (GNSS). This concept is equally applicable to small areas, such as an airport surface, and large geographic regions.



Benefits

Improved...

Separation standards

Approaches in low-visibility conditions

Airport surface navigation for pilots

Aircraft and vehicular surface traffic management for controllers

Fleet tracking for airlines

Sensis pioneered the development and implementation of ADS-B, fielding the first operational ADS-B transceivers for both the Mode S Extended Squitter (1090 ES) and UAT datalinks.

ADS-B



Automatic – Information is transmitted automatically

Dependent – Relies on GNSS

Surveillance – Provides position, velocity, heading, altitude and identification derived from the on-board avionics

Broadcast – Transmits the data to local aircraft and ADS-B transceivers

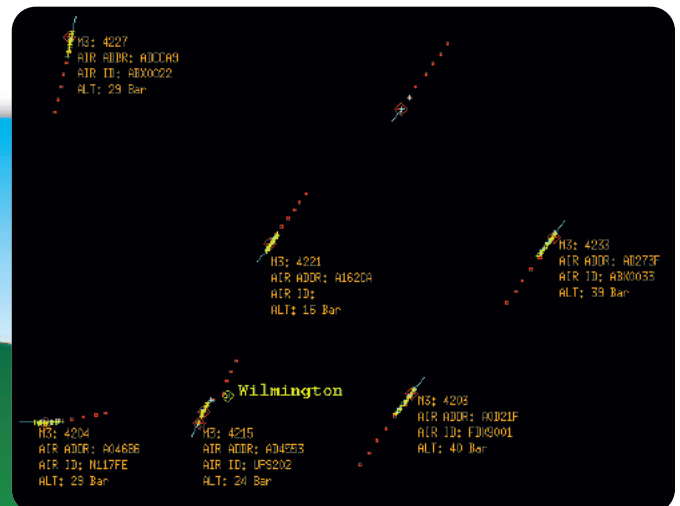
The position and identification data supplied by ADS-B broadcasts are available to pilots and air traffic controllers. ADS-B data updates rapidly, is very accurate and provides pilots and air traffic controllers with common surface and air situational awareness for enhanced safety, capacity and efficiency. Further, it provides a cost-effective solution for surveillance coverage in non-radar airspace.

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ADS-B Specifications

Equipment Specifications	1090MHz ADS-B Transceiver	UAT Transceiver
Mounting	Vertical mounting flanges 57.8 cm (22.75 in) horizontal 64.1 cm (25.25 in) vertical	19" Rack Mount per EIA-310-D
Depth	21.6 cm (8.5 in)	24.4 cm (9.6 in)
Weight	30 kg (66 lbs)	8.6 kg (19 lbs)
Input Voltage	18-30 VDC or 100-240 VAC +/- 10%	18 - 30 VDC
Power Consumption	90 W w/o heater, 150 W w/ heater	24 watts
Secondary Lightning Protection	All External Interfaces	
Safety Certifications	CSA, cTUVus, UL 60950, EN 55022, 61000, 60215, 60950, IEC 60950, CE	UL 60950
RF Compatibility	FCC Part 15 Class B	
System Performance		
Reception Range	>250 nmi*	>200 nmi*
Target Capacity	500 simultaneous targets	
Latency	<250 msec	
Data Output	Cat 21	Cat 33
MOPS Compliance	DO-260, DO-260A	DO-282A

* configuration dependent



While every effort is made to ensure data accuracy, please note that data may be subject to change.

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