airDOME
Aircraft Tracking System

airDOME

airDOME is a configurable, state of the art, ADS-B ground system for ADS-B out applications to supplement radar coverage and provide better quality ATS services. It is a cost effective and efficient surveillance solution for en-route and terminal airspaces where radar coverage is limited or non-existent (gap filling).

It is composed of antennas, receivers and a visualization system. A family of antennas is available to best meet installation needs and several antenna patterns can also be tailored according to operational requirements.

Multiple receivers can be connected to the airDOME network, both to provide redundancy and to extend the area covered: mainly in low altitude airspaces and remote areas. The receiver architecture can be configured to match requirements, ranging from a fully redundant, remotely controlled solution with an embedded self-diagnostic system to a basic, standalone receiver.

IDS Air Nav
an enav group company

CONTACT
✉ sales@idsairnav.com
🌐 www.idsairnav.com
📞 Ph: +39 06 3321711

Features

- Advanced CWP-like display unit;
- Wide range of antennas: compact solutions for local area control, high gain collinear antennas for wide FIR, sectorial antenna arrays for surveillance in areas with dense air traffic;
- Fully configurable receivers: the option to have one or more receivers in a single unit allows scalability, redundancy and the ability to connect to sectorial antennas for high traffic surveillance;
- Processing of DO-260/A/B Mode S ES messages;
- ASTERIX CAT021/CAT023 report generation;
- Ability to also detect and decode mode C and S transponders;
- Centralized data processing in case of multiple ground stations;
- Full remote control;
- Full remote diagnostics and software updates;
- Up to 150 aircraft per second per receiver;
- High immunity to interference.

Benefits

- Reduction in costs: the ADS-B network can be installed in place of secondary radars;
- Low infrastructure requirements and ease of installation: the ADS-B compact antenna can be installed virtually anywhere as there are no radiated fields;
- Full remote control including remote software update;
- No risk installation: The IDS Air Nav EMACS framework is used to predict system coverage as a function of antenna position: installation can therefore be optimized for the best performance;
- Scalability: receivers are connected in a network and can be added or moved according to requirements. Multiple display units can similarly be added as needed.
- Low maintenance and lifecycle cost

Configuration

airDOME is a scalable and modular system which can quickly be reconfigured with optional receivers, antennas and display units to suit specific requirements or constraints.

The basic version is composed of 1 antenna and 1 receiver. A display unit is recommended but is optional.

Component	Basic Version	Options
Antenna	Collinear, omnidirectional, 7 dB gain with embedded LNA and obstruction light	- 10 dB collinear, upward or downward tilted beam - Whip - 10 or 12 dB sectorial - Array of 4 sectorial antennas
Receiver	Local control, ADS-B only Power Supply 220 Vac or SLA Battery 24VDC 100 Ah	- Remote control and diagnostics - Mode C and S transponder detection - VDL-4 reconfigurability - Wireless data link
Display Unit	- Aircraft position - Aircraft identification - Velocity vector - Halo - Distance evaluation - Past positions - Possibility to import and display airspaces, routes and procedures - Received signal control - Display of 3D coverage area - Identifies aircraft close to coverage boundary	- Centralized processing unit in case of multiple ground stations - Remote receiver control and diagnostics