

easat[®]
RADAR SYSTEMS

ADS-B

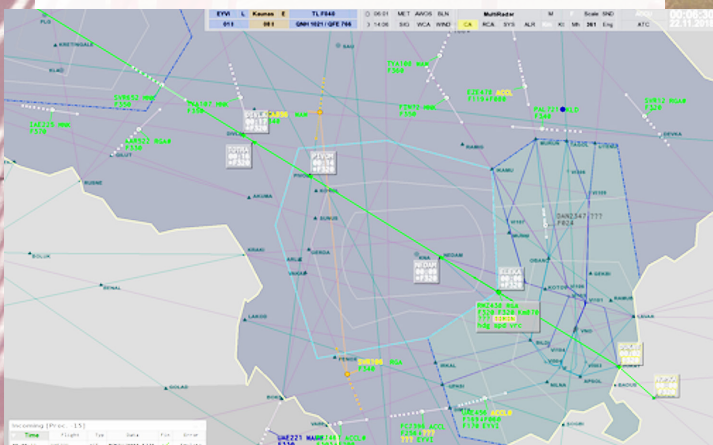
AUTOMATIC DEPENDENT SURVEILLANCE BROADCAST

Easat's ADS-B Ground System meets all ICAO and EUROCAE Standards and is intended to provide Cooperative Surveillance of Aircraft and Vehicles equipped with ADS-B Transponders and is fully integratable with ATM System.

The ADS-B Ground System is a fault-resistant versatile and open system solution, based on COTS components and easily adaptable to customer needs due to its modularity, scalability and flexibility.

A complete ADS-B Ground System consists of four main subsystems:

- ADS-B Ground Station(s)
- Traffic Situation Display (TSD)
- Control and Monitoring System (CMS)
- Central Processing Station (CPS)
- Tailored Spares, Maintenance & Upgrade Packages available



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ADS-B Ground Station(s)

This is the basic subsystem to be installed and operated unattended at remote sites as a surveillance sensor. It is a fully functional element of the system, capable of outputting data directly to external systems.

Traffic Situation Display (TSD)

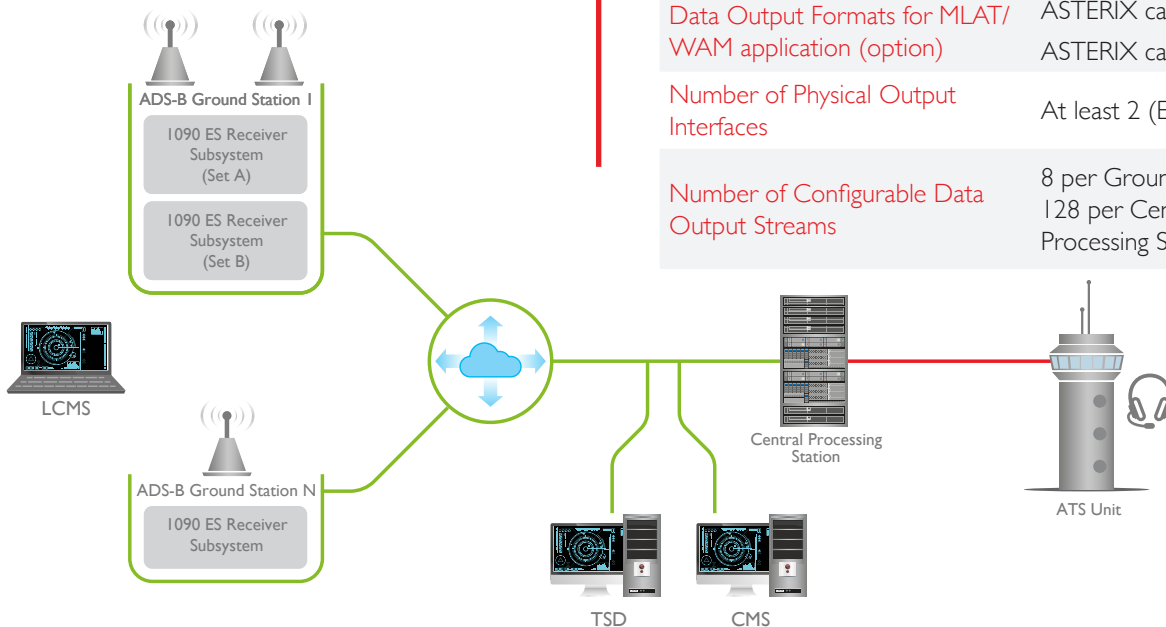
This is a Human Machine Interface (HMI) subsystem intended to display surveillance area maps and target labels with identification, position and other information regarding aircraft, vehicles and other relevant targets.

Control and Monitoring System (CMS)

Centralised and local Control and Monitoring Systems (CMS) are intended to monitor, configure and control the ground station(s) and the ADS-B Ground System as a whole. CMS has user-friendly HMI and built-in Traffic Situation Display (TSD) functions.

Central Processing Station (CPS)

The redundant Central Processing Station is a processing subsystem that collects surveillance data provided by ground stations, performs multi-sensor data fusion and surveillance data processing. The CPS provides advanced management of the surveillance output data flows and ensures data integrity.



Specifications*

Coverage

Detection Range	not less than 450 km / 250 nm (line of sight)
Detection Height	at least 0... 20,000 m
Azimuth	0 to 360°

Tracking Parameters

Number of Aircraft	at least 300 Aircraft / Second
Target Capacity	> 1000 Tracks
Probability of Data Updates Every 2 sec	not less than 0.98
False Alarm Probability	less than 0.00003
Latency	less than 500 ms

Number of Receiving Omnidirectional Antennas	2 (1090MHz + GNSS antenna)
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Receiver Operating Frequency	1090 ± 1 MHz
Receiver Sensitivity	not worse than 93 dBm

Receiver Dynamic Range	-85 dBm and -10 dBm (SMR>99%)
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Probability of Detection	> 90%
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Supported GNSS for Time Synchronisation	GPS / GLONASS
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Absolute Error of the Target Position and Velocity Reception Time relative to the UTC	not more than 25 msec
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In case of Loss of Synchronisation, the Time Accuracy is Maintained	at least 30 Minutes;
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Data Update Rate	1...10 sec
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Data Output Modes	Periodic Data Driven
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Data Output Formats over UDP/IP/Ethernet or HDLC	ASTERIX Cat. 021 ASTERIX Cat. 023 ASTERIX Cat. 247
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Data Output Formats for MLAT/WAM application (option)	ASTERIX cat. 019 ASTERIX cat. 020
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Number of Physical Output Interfaces	At least 2 (Expandable)
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Number of Configurable Data Output Streams	8 per Ground Station 128 per Central Processing Station
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