

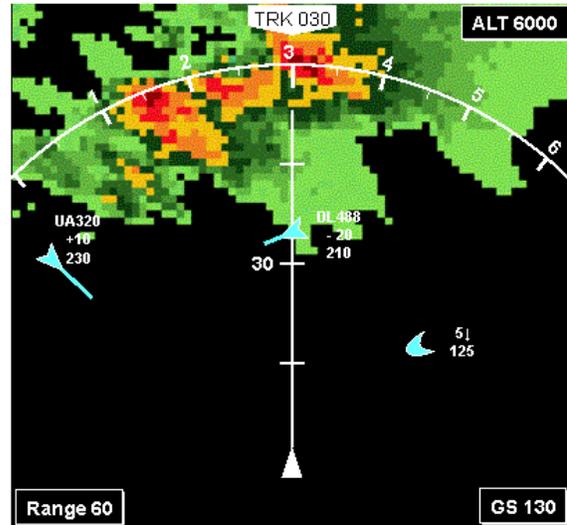
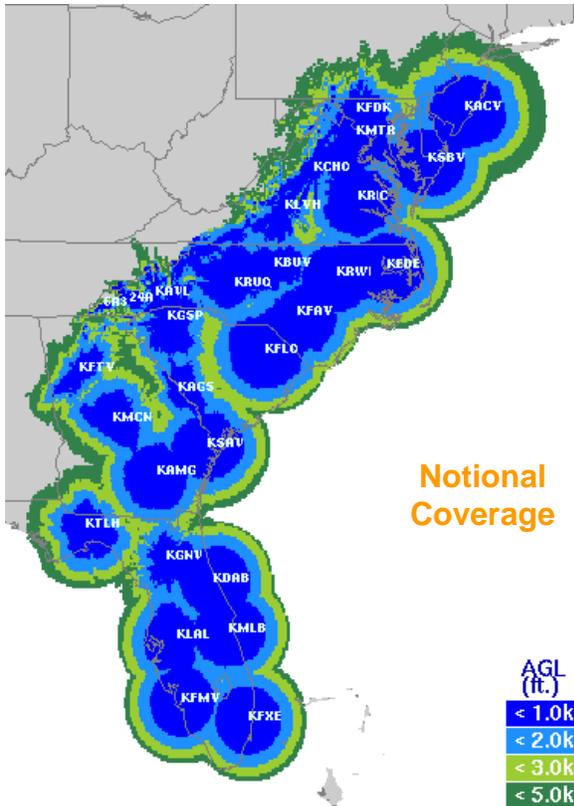


East Coast – ADS-B Broadcast Services Implementation

Overview

Over the next several years, the Federal Aviation Administration (FAA) will begin to provide no-fee weather and traffic broadcast services to pilots flying along the East Coast of the United States as part of the FAA’s continuing development of Automatic Dependent Surveillance - Broadcast (ADS-B). Broadcast services will be available at key sites between Atlantic City, New Jersey and Miami, Florida. The deployment of these broadcast services will help pilots operate their aircraft as safely as possible by providing real-time text and graphical weather/traffic information on a single, multi-purpose data link.

The use of broadcast services will show other air-to-air traffic, including radar-derived traffic, in the vicinity of your aircraft. This can also be combined with next-generation radar (NEXRAD) reflectivity to provide an integrated picture of traffic and weather. As illustrated above in this typical moving map display, equipped users see both weather and traffic information relative to own aircraft position and direction of flight.



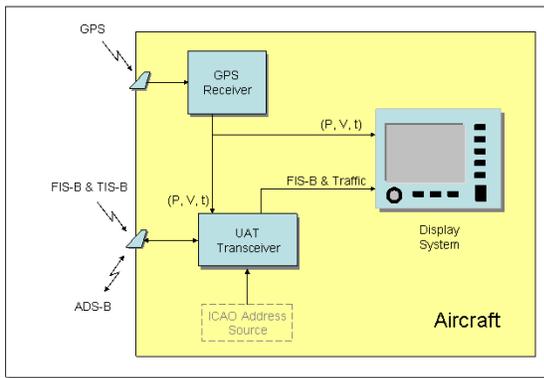
The graphic above shows three other aircraft traffic symbols relative to your current aircraft track. A data block with relative altitude and airspeed identifies each of these traffic symbols. These services are provided by Automatic Dependent Surveillance–Broadcast (ADS–B) and Traffic Information Service–Broadcast (TIS–B). ADS–B supports air-to-air traffic situational awareness. TIS–B provides uplinks of FAA surface radar derived traffic. In addition to NEXRAD, weather products like Meteorological Aviation Reports (METARS) and Terminal Area Forecasts (TAFS) will be provided and displayed in text format

provided by Flight Information Services–Broadcast (FIS–B).

Each of the broadcast service products are dynamic and referenced to a Global Positioning System (GPS)-based system that is independent of the ground station. The aircraft automatically receives the proper products from ground stations.

All of these services will be delivered over a new data link - The Universal Access Transceiver (UAT). Since UAT operates on a single fixed frequency, no tuning is necessary by the user.

UAT ground stations continuously broadcast the latest weather and traffic information. Equipped aircraft receive the broadcasts and display the desired information for the selected area of interest.

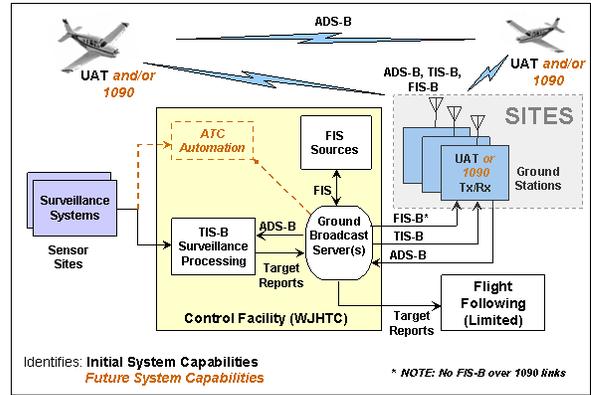


The aircraft architecture (illustrated above) will consist of two basic configurations:

- 1) A transmit and receive capability with supporting display system that provides information to the pilot, and
- 2) A transmit only configuration that simply transmits ADS-B positional information.

Both configurations will require a positional source, such as a GPS receiver.

The FAA’s ground support system will be operated centrally from the William J. Hughes Technical Center (WJHTC) in Atlantic City, New Jersey. Information from FAA radars, various weather products, and ADS-B traffic will be collected at the WJHTC where it will be distributed as required to the proper ground stations.



Future new broadcast services products are possible, since the architecture supports expansion without avionics hardware changes. Future enhancements are expected to use the same “signal in space” technology offering graphical Temporary Flight Restrictions (TFRs) and Special Use Airspace (SUA) as well as other graphical and weather products.

Advanced services such as air traffic separation services using only ADS-B are also possible, including services in areas without radar coverage. Fleet managers and fixed base operators will be able to track their airborne assets with a web based, flight monitoring application.

Ground stations are planned to be in operation at key sites along the East Coast by the end of 2004.

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