

ARAS

The Spanish Fast Time Analyzer System

It is well known that an Acoustic Intelligence Database (ACINT) is fundamental to support ASW and naval missions. The ACINT is built from the analysis of the raw data recorded from acoustic sensors onboard submarines, surface ships and ASW aircrafts. The analysis of this data is performed by means of Fast Time Analyzer Systems (FTAS).

SAES has developed an FTAS to support the NATO Maritime Patrol Aircrafts (MPA) for ASW operations using recorder equipments compatibles with STANAG-4283. This system provides post-mission acoustic signal analysis and intelligence gathering by means of replaying and processing simultaneously the acoustic signals recorded during the flight (up to a maximum of 32 sonobuoy channels) at real time speed, higher speeds (up to 8 times) and lower speeds (up to ¼ times). This system permits:

- To confirm on the ground acoustic detections obtained during flight.
- To perform new acoustic detections on previously missed targets during in-flight operations.
- To store the acoustic detections in digital format so that the Acoustic Intelligence Database (ACINT) can be updated to be used on future flights.

The FTAS is a system based on HW COTS/NDI. It has been designed as modular, portable and scaleable equipment to allow:

- The inclusion of future processing of new sonobuoys reducing the need to modify the HW.
- The extension of the system to the analysis of the raw data recorded from acoustic sensors onboard surface ships and submarines, like Towed Array and Cylindrical Sonars.

The main functionalities are the following:

- The FTAS stores the processed information on digital format on Hard disk, USB hard disk and DVD.

- The FTAS is able to show sonobuoys tactical information over a geographic plot, allowing the use of localization help tools:
 1. Energy Plot for passive sonobuoys,
 2. Multistatic Plot for active sonobuoys ,
 3. Manual Tools: LOFIX, HYFIX or CPA,
 4. Automatic Tools: Automatic Cross Fixing, Target Movement Analysis, DOP-CPA.
- The FTAS builds a performance prediction database with both, the BATHY and ANM sonobuoys processed.
- The FTAS is able to classify contacts, in order to build/use an acoustic intelligence database.
- The FTAS can be used as a trainer of acoustic operators.

The FTAS developed by SAES, is currently on service in different countries (Navy's and Air Forces) to support ASW mission and training of acoustic operator.

