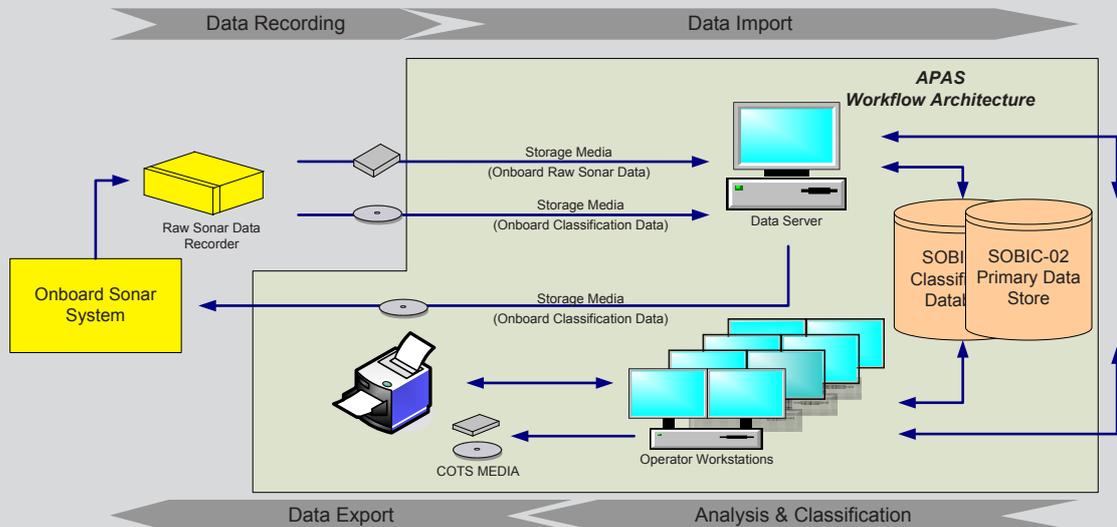




Active Pulse Analysis System

High Speed, Interactive Short-time Signal Analysis



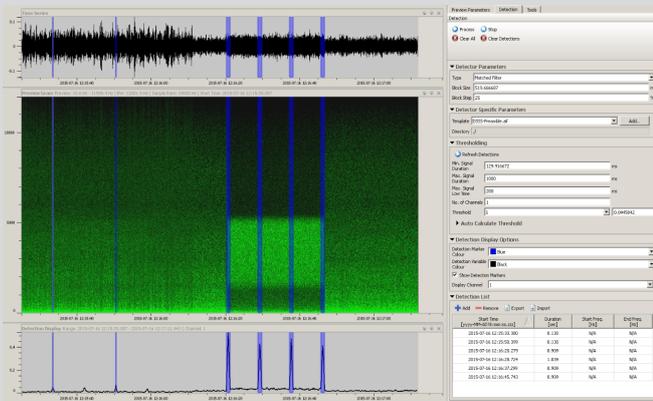
- Short-Time Signal Analysis
- Specialised High Resolution Algorithms
- Measuring Tools
- Primary Data Store
- Classification Database Active
- Training Support
- Based on commercial hardware and software

The Active Pulse Analysis System (APAS) is an advanced tertiary acoustic analysis system which provides high speed, interactive processing of sonar data on a standard PC based platform optimised for the analysis of Short Time Signals.

The purpose of a tertiary acoustic analysis system is to conduct detailed acoustic analysis with the goal of extracting important Pulse signature and intelligence information for feeding back to maritime sonar operators.

Sonar data is recorded and passed from front line assets (such as Submarines) to APAS for detailed analysis. It is this detailed analysis that facilitates the compilation of an information library containing detailed source information and examples.

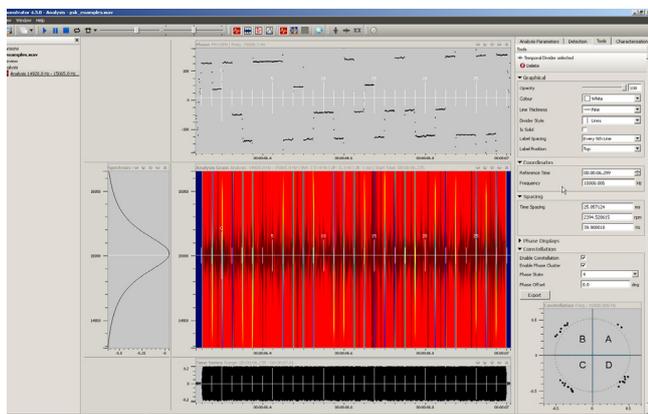
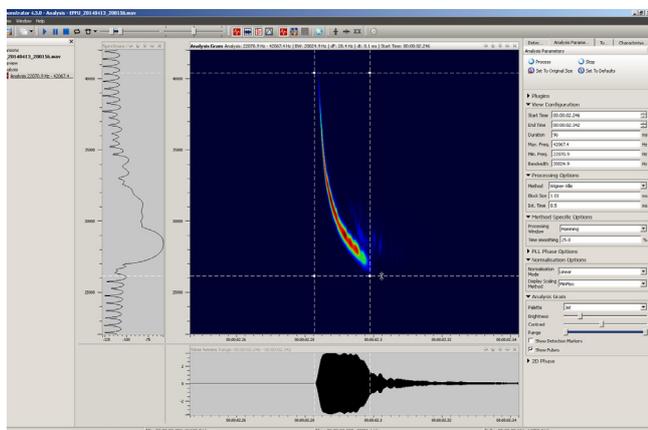
APAS provides a full complement of active sonar analysis displays, including those for high-resolution Spectrum data and full colour Time/Frequency GRAMS. Full bandwidth Audio replay of signals is also available.



... a sound decision

APAS

Active Pulse Analysis System



- Utilising power of modern multi-core processors
- Provides redundancy for information storage devices
- Training options
- Scalable to customer needs
- Built-in growth path

Main System Functions:

- High resolution Pulse Analysis
- Adaptive processing modules
- Phase estimation techniques
- Covering ultra high frequencies
- Rich tool set optimised for short-time signal parameter estimation
- Audio Playback of pulses signals
- Pulse Classification Tools

APAS provides the facility to process a single data set using multiple complementary analysis techniques including different high resolution spectrum analysis technics optimised for short time signals, integration levels and normalisation processes. Active Classification parameters are managed via the Classification Database.

The analysis tools contained within APAS provide the operator with the ability to conduct detailed analysis of all aspects of the data including:

- High Resolution Processing of active transmissions
- Time
- Doppler shift
- Pulse Length and Pulse repetition times
- Modulation bandwidth
- Pulse Level
- Phase behaviour of e.g. underwater communication signals
- Processing of Active transmissions for very high frequencies

Processed data can be output in various forms including:

- Pulse detection lists
- GRAM plots (frequency versus time)
- Spectrum plots (frequency versus signal level)
- Level versus Time and Frequency versus Time views
- Pulse parameters estimated using the Pulse Metrics Tool set
- Audio playback

Information derived as a result of the data analysis is managed through the APAS Primary Data Store.

Information derived as a result of the data analysis is used to establish a Classification Database using a hierarchical database structure that allows for the storing of alphanumeric, GRAM, Spectrum or Pulse Graphics information derived from the processed data. APAS is able to manage active pulse classification and provides the facilities to import and export Classification Database files to and from supported operational units.

APAS can be provided with an adaptable HW configuration, e.g. one (1) Data Server, four (4) Operator Workstations.

APAS includes optional training modules teaching for example basic Pulse classification techniques or improving the know-how of Sonar operators in specific fields.

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