Callisto - Radar Pulse Analysis Software

The Callisto Radar Pulse Analysis Software has been developed to allow Radar Pulse Descriptor Words (PDWs) to be processed, filtered, analysed and visualised easily and quickly. Originally designed to complement the Teledyne Defence & Space family of receiver based systems and products including the Phobos Threat Warning System, Instantaneous Frequency Measurement (IFM) and Digital Frequency Discriminators (DFD) based receivers, PDWs from third-party receivers can also be imported into Callisto for analysis.

Callisto's comprehensive feature set divides into the following sections:

- PDW Data Format Support
  - Native Files (Teledyne family of receivers only)
  - Third-party PDW Data Format Support (via CSV or XML files)
- PDW Filtering
  - Automatic segmenting of large files for ease of management
  - Frequency & Pulse Width domain filtering to ease analysis of dense environments
  - Inside/Outside removal of PDWs from complex/sensitive datasets
  - Automatic segmentation of PDW files > 1,000,000 Pulses
- Data Visualisations
  - User definable 2D & 3D displays with any parameter on any axis
    - Auto colourisation of PDWs against z-axis parameters
  - Polar display provides spatial awareness for data with an AOA component
  - Waterfall display provides real-time information for network sourced PDWs
  - Displays up to 1,000,000 pulses at once (PC memory/graphics card dependent)
- Single Emitter Analysis
  - Easy selection of PDWs belonging to a single emitter (mouse windowing)
  - Automatic analysis of an emitter over time (ARP, PRI, etc.)
  - Easy Selection of PRI/TDOA patterns to create an emitter definition
  - Multiple format export of emitter definitions for Phobos & Simulators
- Audio Playback
  - Playback of PDW data with audio relative to key parameters
  - Support of multiple speaker configurations (e.g. Stereo, Surround, 5.1, 7.1)
  - User selectable playback speed scaling & sound wave types

Features

- Easy to use interface for radar deinterleaving and analysis
- Isolate single illuminations from many individual emitters
- Multiple user-configurable display modes
    - 2D / 3D Scatter– Configurable X/Y/Z axis
    - 2D & 3D – Polar displays
    - Waterfall display
- Live capture & viewing of PDWs
- Open input & output data formats (PDW, CSV, XML, TAB)
- Compatible with multiple receiver types
- Export emitter definitions for database library / simulators
- Stereo and Surround Sound audio playback of PDWs
- Floating licenses available for cost effective use across multiple terminals

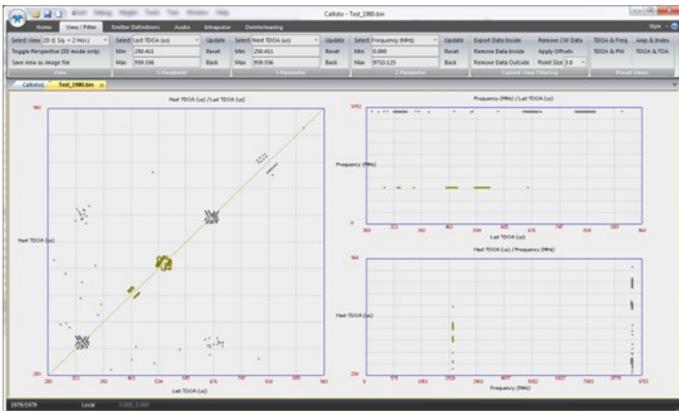Callisto is designed to process ES data from many ES systems such as Teledyne's Phobos

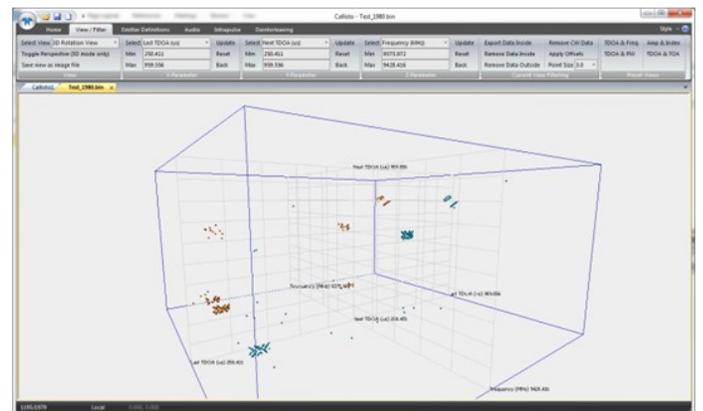Callisto runs on commercial Windows based IT

System Requirements

	Minimum	Recommended
Processor	Intel i7	Intel i7 or higher
Memory	4GB	8GB or higher
Graphics Chipset	Intel HD3000	Nvidia GTX-550 or higher
Display Resolution	1366 x 768	1920 x 1200
Operating System	Windows 7 (32-bit)	Windows 7/10
Ethernet	1 Gigabit (for live PDW streaming	
Disk Space	50MB	

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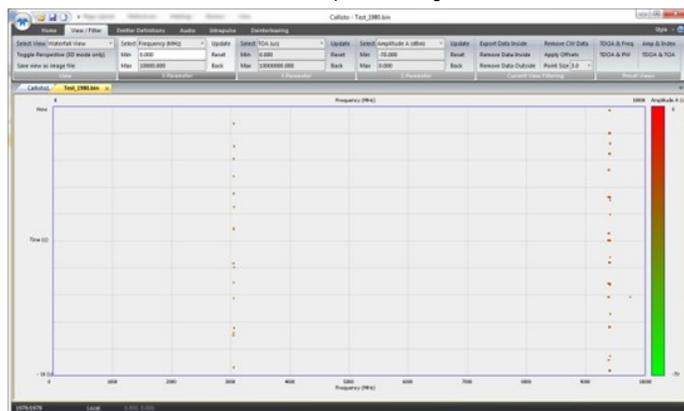
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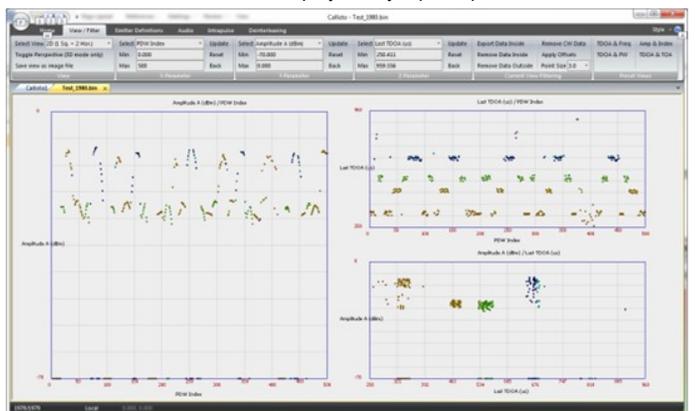
Technical Data

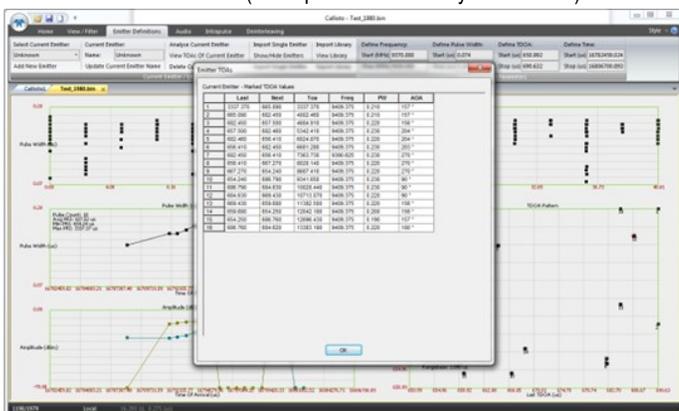Visual correlation of pulses using TDOA values

3D Rotation display of any 3 pulse parameters

Waterfall view (Live updates with Teledyne receivers)

Visualisation of emitter illuminations over time

Selection of individual pulses to form emitter definitions

2D Polar Display of any 3 pulse parameters

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