



SEDONA GEOLOCATION SYSTEM

The Sedona system is a mobile Direction Finding (DF) capability that precisely locates RF signal sources using an Aperture Statistical Imaging (ASI) technique enabled by its multi-channel phase-coherent receiver architecture. The system can operate in ground, marine and airborne configurations. The system is comprised of the Sedona sensor, an application-specific antenna array and a rugged control station. The control station connects to the Sedona sensor via a standard TCP/IP connection and uses a simple and intuitive Graphical User Interface (GUI) for system configuration, command and status, and the display of map-based location results. The Sedona Geolocation system can be enhanced to support a variety of mission-specific signals over a broad range of RF frequencies. Sedona hardware can be enhanced to operate as a Time Difference of Arrival (TDOA) sensor node within a network of Leonardo DRS TDOA nodes, providing instantaneous location of targets and leveraging Leonardo DRS's proven data time tagging and TDOA techniques.

Sedona is a combination of proven Leonardo DRS core technologies that create a high-performance DF/TDOA solution that is compact, lightweight, low-power and currently designed with no platform-specific antenna array calibration requirements. The processing subsystem is comprised of the Leonardo DRS Lynx XRU Geolocation Appliance and four Leonardo DRS Picoceptor™ software definable receivers. Sedona can be configured with an integrated four element asymmetrical antenna array optimized for mobile DF applications or a platform-specific antenna array. The GUI combines the system command and control interface and the display of the Geolocation results.



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SYSTEM BENEFITS

- Single mobile platform
- Real-time target detection, recording and location of battle space emitters
- Small form factor facilitates ground-vehicle, agile sea-based platforms, and roll-on/roll-off airborne applications
- Installs on Cessna Caravan or like aircraft in under 90 minutes
- Requires no or minimum antenna calibration
- Built in GPS/INS
- Highly accurate Geolocation from altitude at speed

SYSTEM FEATURES

- Four-channel phase-coherent platform
- Small, lightweight, compact and ruggedized
- Intuitive operator GUI (based on NASA World Wind)
- Easy to use with minimal set-up time
- Multiple SOI adaptable, conventional and modern signal

SEDONA PROCESSING SUBSYSTEM SPECIFICATIONS

T1 6416 DSP, Xilinx®Virtex 5 FPGA, Xilinx®Virtex 4 FPGA

Geolocation processing algorithms

100 MHz wideband signal recording

Four phase-coherent Leonardo DRS Picoceptors™

20 MHz to 3 GHz

| PARAMETER | DESCRIPTION |
|-----------------------|--|
| Dimensions | 13.3 L x 14.7 W x 4.79 H inches (33.8 L x 37.3 W x 12.2 H cm) |
| Weight | 17.8 lbs. (8.1 kg) |
| Power | < 84 watts (7.0 A @ 12 VDC) |
| Operating Temperature | +32°F to +149°F (0°C to +65°C) |

ANTENNA SPECIFICATIONS

Optional frequency variants from 100 MHz to 2 GHz

Input protection

Modularized amplification and filtering

| PARAMETER | DESCRIPTION |
|------------|--|
| Dimensions | 17.9 L x 9.5 W x 5.7 H inches (45.5 L x 24.1 W x 14.5 H cm) |
| Weight | 7.3 lbs. (3.3 kg) |



Sedona Sensor



GUI Display



Sedona Antenna

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