

SeaSonde Multi-Static Data Processing Software Package

(single-use license)

CODAR Product Code: SSDA-ES100

Product Description:

The multi-static data processing software package enhances the conventional backscatter "Current" tool that produces radial velocities from SeaSonde echoes, by enabling processing of sea echoes from separated transmitters. The result is a set of bistatic elliptical files for each set of echoes that originate from synchronized transmitters included within radar range. For example, if three transmitters are within range and synchronized -- as well as that station's transmitter -- then four sets of current scalar-velocity estimates are produced. These follow the same LLUV formats (latitude/longitude/u/v) as standard backscatter radials, so that subsequent algorithms will recognize and utilize them, including combining tools to get total vector maps. This ensures that the outputs are backward compatible with existing downstream algorithms.

The advantage of augmenting to multi-static operation by employing the signals from additional transmitters is the improved total-vector current-map coverage, both in extended area as well as more accurate vectors within the included area.

SSDA-ES100 Includes:

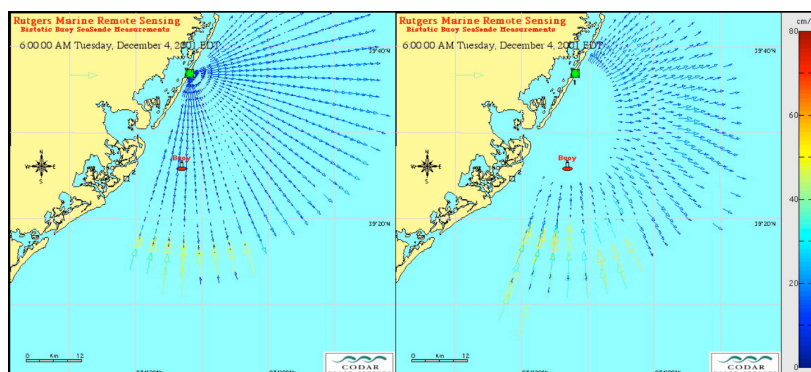
- Single-use software license
- Firmware key (for activation)
- Instruction guide (PDF)

Multi-Static Data

Processing Software

Package Features:

- Extends area of total vector coverage from standard backscatter geometry
- Increases total-vector accuracy and robustness within coverage area
- Is keyed by firmware code to the designated receiver/computer
- Accepts multiple bistatic echo sets from input cross spectra
- Output file in standard LLUV ASCII format
- Output files accepted by all present downstream processing tools
- Includes same QA/QC data (e.g., rms uncertainties) as basic current tool
- Expands basic meta-data to give additional relevant multi-static information regarding current ellipticals included in the file



Examples of radial velocity vector maps from conventional backscatter method (left) and a bistatic elliptical map (right) both simultaneously produced at same SeaSonde receiver, utilizing multiple transmitter signals and calculated with the multi-static data processing package.

Technical Specifications †

Requirements:

Valid Existing Software Licenses: SeaSonde remote unit data processor (computer) comes with a valid basic SeaSonde remote-unit radial-suite processing package with a single-user software license. By procuring the new multi-static software package, elements of the existing processor are replaced and an additional single-user license is included, enabling proper operation of the new multi-static capability.

Radial Suite software version: The radial suite software package running on the computer should be at least Release 6 or updated to our latest version prior to installation of multi-static data processing package.

Computer: PowerPC or Intel running on at least OS X 10.4.11 with 512kB ram (10.5 preferred with 1GB ram)

Special Setup: Recommend use of measured antenna pattern with 1 degree spacing.

Installation & Activation

When this software package is purchased, it is keyed and tied to a firmware chip that CODAR will supply. This chip resides in the SeaSonde Receiver chassis, on a USB hub. This allows security by ensuring that the single-user licensed tool will run only with that unit, providing authorization to the owner and ensuring protection against theft or copying for use on unlicensed systems.

†Specifications and appearance are given as guidelines and may change without notice.

