

# CODAR Ocean Sensors

Fall 2009 SeaSonde Training Course, 26-30 October 2009

Draft Agenda, Last Revised 8 June 2009

## Monday, 26 October 2009

18:00 PM Welcome Happy Hour: Hosted by CODAR

## Tuesday, 27 October 2009

9:30 AM Course Begins

Location: CODAR Office, Mountain View, CA

9:30-10:00 AM

1.1 Introductions and Course Overview

Brief self-introductions by attendees

Brief introductions of CODAR staff

CODAR Company Overview

Course Overview and logistics

Questions/Problems: How to get answers from Support

10:00-10:30 AM

1.2 SeaSonde Overview- "What We Make and What is Measured"

HF Radar and SeaSonde Terminology

Overview and Operation of a SeaSonde HF Radar Network

Differences Between Systems (Hardware and Software)

System Hardware Show and Tell

10:30-11:00 AM

1.3 Site Selection

Optimizing Performance and Data Quality With Good Site

Choices

Environmental Factors

Interference Issues

Frequency Selection and Permits

11:00-11:45 AM

1.4 Introduction to the SeaSonde MacIntosh

Intro to Mac OS X and Apple Macintosh Computers

How to Run SeaSonde software updates

12:00-13:30 PM Lunch (Catered by CODAR)

13:30-14:00 PM

1.5 Creating a Site File for a Radial Site

14:00-14:30 PM

1.6 SeaSonde10 Release 5 Universal Software Overview

CODAR Software and File Directory

Documentation - where to Find the Answers

Sentinel

SeaSondeController (Monitor & Standard Controller Menus)

SeaSondeAcquisition

CSPRO

Terminal Shell Programs (Spectra Analysis Suite)

Archivalist

14:30-14:45 PM Break

14:45 -15:30 PM

1.7 System Setup, Startup and Checks for Proper Operation

*Exercise: Setup and startup of a 25MHz SeaSonde*

SeaSondeController (Transmit Monitor & Advanced Controller Menu)

Sentinel (Status Window Checks)

Terminal Window (Error Message Checks)

Automated Start-up with Sentinel login

15:30-16:00 PM

1.8 Evaluating Cross Spectra : The Basic Unit of SeaSonde Data

Definition

Description

Characteristic features and differences between systems

Unusual spectra features

Identifying "problem" features

*Exercises: Using SpectraPlotterMap, SpectraPlotter,*

*SpectraPlotter3D, SpectraSlicer,*

*SpectraShortener and DiagDisplay to Evaluate Spectra Data*

16:00-16:30 PM

1.9 Simulated Processing and Radial Site Setup Modifications

16:30-17:30 PM

1.10 Using DiagDisplay for Setting Phases and

Troubleshooting

Setting Phases From Sea Echo and Re-Processed CSS Files

Setting Phases From Pattern Measurements

*Exercises: Estimating phases and Re-processing Cross Spectra*

18:00-19:30 PM

1.11 Dinner & Lecture by Company President Don Barrick:

*History of HF Radar*

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<b>Wednesday 28 October 2009</b>	Using rsync for command-line transfers
9:00 Course Begins Location: CODAR Office, Mountain View, CA	<i>Exercise: Configuring file transfers with FileExchange and rsync</i>
9:00-9:30 AM Hardware Show and Tell	14:45-15:15 PM 2.7 Overview of SeaSonde Software Utilities
9:30-10:30 AM 2.1 System Setup, Startup, Checks for Proper Operation, Troubleshooting <i>Exercise: Setup and startup of a 12MHz Combine-type SeaSonde</i> SeaSondeController (Transmit Monitor & Advanced Controller Menu) Sentinel (Status Window Checks) Terminal Window (Error Message Checks) Automated Start-up with Sentinel login	15:15 -15:30 PM Break 15:30-16:00 PM 2.8 Combine Site Software Overview CombineSite Installation Sentinel FileExchange Terminal Shell Archivalist CombineSiteSetup
10:30-11:00 AM 2.2 Introduction to First Order Lines <i>Exercise: Using SpectraPlotterMap to Evaluate/Set First Order Lines</i> 2.3 How to Re-Process Radial Data RadialSiteSetup	16:00-17:00 PM 2.8 Creating Grid Files SeaDisplay SDSetup
11:00-11:30 AM 2.4 Antenna Pattern Measurement Techniques SeaSondeController (Transponder Controller Menu) Antenna Pattern Measurement Setup	16:30-17:00 PM 2.9 How to Re-Process Total Vectors Using Alternative Parameters CombineSiteSetup <i>Exercise: Creating Grid Files for Total Vectors</i>
11:30-12:15PM 2.5 Processing Pattern Files	17:00-17:30 PM 2.10 Data Troubleshooting From Total Vectors Backwards to the Problem Source <i>Exercise: Troubleshooting "Bogus" Totals to the Problem Radial(s) and Troubleshooting Problem Radials to problem Cross Spectra (CSS)</i>
12:15-14:00PM Lunch (Hosted by CODAR)	
14:00-14:45 PM 2.6 Communications and File Transfers Combine Site File Transfers Communications Hardware Configuring File Transfers	Wednesday Evening: Dinner (on your own)

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### Thursday, 29 October 2009

8:30 Course Begins

Location: CODAR Office, Mountain View, CA

8:30 AM - 12:30 PM

3.1 12MHz System Setup, Startup, Checks for Proper Operation, Troubleshooting

*Exercises: Field Setup 12Mhz SeaSondes, system startup and checks for proper operation, Problem Solving*

3.2 5MHz or 12MHz APMs *Walking APM for LR or SR System*

12:30- 14:00 PM Lunch (Catered by CODAR)

14:00-14:30 PM

3.3 Configuring Wave Software for Wave Processing System limitations

Evaluating Site for Appropriateness of Wave Measurements

Configuring the Wave Parameters with RadialSiteSetup  
Theory of Operation  
Using Wave Display

14:30-15:00 PM

3.4 Processing APM Data

15:00-15:45 PM

3.5 Cable Repairs - CODAR Production Facility

15:45-16:00 PM Break

16:00-16:30 PM

3. 6 Troubleshooting Systems with Timbuktu and SSH

16:30-17:30 PM

3.7 Review Sessions - Participants Choice - TBD

19:00 Dinner, Hosted by CODAR

### Friday, 30 October 2009

9:00 Course Begins

Location: CODAR Office, Mountain View, CA

9:00-09:45 AM

5MHz Antenna Setup

9:45-10:15 AM

4.1 Frequency Management

How SHARES (GPS Timing Works)

Considerations for Setting Up a Synchronized Network

Demonstration of Bistatic

Identifying and Troubleshooting SHARES Synchronization

Problems

*Exercise: GPS System Startup and Setup, Setting GPS Timing*

*Offsets With SeaSondeController and*

*Troubleshooting GPS*

10:15-10:45 AM Break

10:45-11:30 AM

4.2 Customizing w/ Command Line Tasks and Perl Scripts

4.3 File Management and Archiving

How to contact "Support" and what's required

- Screen shots

- Diagnostic files

- Sample data files (compressed)

The Importance of Desktop Log Files

Configuring Archivalist to Optimize Disk Space

Re-processing Data From Archives

11:30- 12:00 AM

4.4 Data QAQC

Noon Course Wrap-up

Lunch, Catered by CODAR