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
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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Wednesday 28 October 2009
9:00 Course Begins
Location: CODAR Office, Mountain View, CA

9:00-9:30 AM Hardware Show and Tell

9:30-10:30 AM
2.1 System Setup, Startup, Checks for Proper Operation, Troubleshooting
Exercise: Setup and startup of a 12MHz Combine-type SeaSonde
SeaSondeController (Transmit Monitor & Advanced Controller Menu)
Sentinel (Status Window Checks)
Terminal Window (Error Message Checks)
Automated Start-up with Sentinel login

10:30-11:00 AM
2.2 Introduction to First Order Lines
Exercise: Using SpectraPlotterMap to Evaluate/Set First Order Lines
2.3 How to Re-Process Radial Data
RadialSiteSetup

11:00-11:30 AM
2.4 Antenna Pattern Measurement Techniques
SeaSondeController (Transponder Controller Menu)
Antenna Pattern Measurement Setup

11:30-12:15PM
2.5 Processing Pattern Files

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
Using rsync for command-line transfers
Exercise: Configuring file transfers with FileExchange and rsync

14:45-15:15 PM
2.7 Overview of SeaSonde Software Utilities

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

16:00-17:00 PM
2.8 Creating Grid Files
SeaDisplay
SDSetup

16:30-17:00 PM
2.9 How to Re-Process Total Vectors Using Alternative Parameters
CombineSiteSetup
Exercise: Creating Grid Files for Total Vectors

17:00-17:30 PM
2.10 Data Troubleshooting From Total Vectors Backwards to the Problem Source
Exercise: Troubleshooting "Bogus" Totals to the Problem Radial(s) and Troubleshooting Problem Radials to problem Cross Spectra (CSS)

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