

RDI 75kHz Long Ranger Deployment

Project: Endeavour Ridge "Sea Breeze-Fluxmeter" Year 2

Serial Number: 3808

Cruise: 2004-22

Platform: CCGS John P. Tully (Capt. John Anderson)

Station: ER04-N2

Deployment Date: 0950, 11 July 2004 PDT

Position: 47° 57.520' N, 129° 05.582' W

Depth on Sounder: 2175m

Recovery Date: 1345, 20 July 2005 PDT on cruise 2005-16

Deployed 6 m above bottom with an Aanderaa CM 20m above it.

Parameters

Ensemble Interval	01:00:00.00
Bin Size	8m
Number of Pings	50
Number of Bins	64
Observations	u,v,w velocity, echo intensity correlation, percent good, pitch, roll, heading, battery
Ambiguity Velocity	125cm/s
Water Profiling Mode	Mode 1, Narrow Band
Time	Pacific Standard
Start Time	1800, 10 July 2004 PST
Power	High

PlanADCP v.2.01 (2002) output:

PlanADCP (Basic): Workhorse Long Ranger 75 kHz [C:\Documents and Settings\mihalys.PAC\Desktop\2...

File Settings View Help

ADVANCED settings changed. CAUTION: Not enough battery packs for the deployment.

Advanced

Cell Size 8.00m

First Cell 15.51m

Max Range 700.00m

Last Cell 519.51m

Proposed Setup:

Deployment Duration: 365 days

Ensemble Interval: 01:00:00

Salinity: 35 ppt

Temperature: 2 °C

Water Pings: 50

Number of Depth Cells: 64

Depth Cell Size: 8 m

Deployment Consequences:

First Cell Range: 15.51 m

Last Cell Range: 519.51 m

Max Range: 700.00 m

Standard Deviation: 1.11 cm/s

Ensemble Size: 1428 bytes

Storage Required: 12.51 MB

Power Usage: 1885.87 Wh

Battery Pack Usage: 4.2

Notes

PST

CAP NUM

PlanADCP (Advanced): Workhorse Long Ranger 75 kHz [C:\Documents and Settings\mihalys.PAC\Desktop\2...

File Settings View Help

CAUTION: Not enough battery packs for the deployment.

Basic Expert

Environmental Setup:

Transducer Depth: 2000 m

Salinity: 35 ppt

Magnetic Variation: 0 °

Temperature: 2 °C

Deployment Timing Setup:

Duration: 365 days

Ensemble Interval: 01:00:00.00

Ping Int. (Auto): 00:00:10.00

☐ Ping Immediately After Deployment

First Ping Date and Time:

10-Jul-2004 06:00:00 PM

Profiling Setup:

Pings Per Ensemble: 50

Number of Depth Cells: 64

Depth Cell Size: 8 m

Deployment Consequences:

First Cell Range: 15.51 m

Last Cell Range: 519.51 m

Max Range: 700.00 m

Standard Deviation: 1.11 cm/s

Ensemble Size: 1428 bytes

Storage Required: 12.51 MB

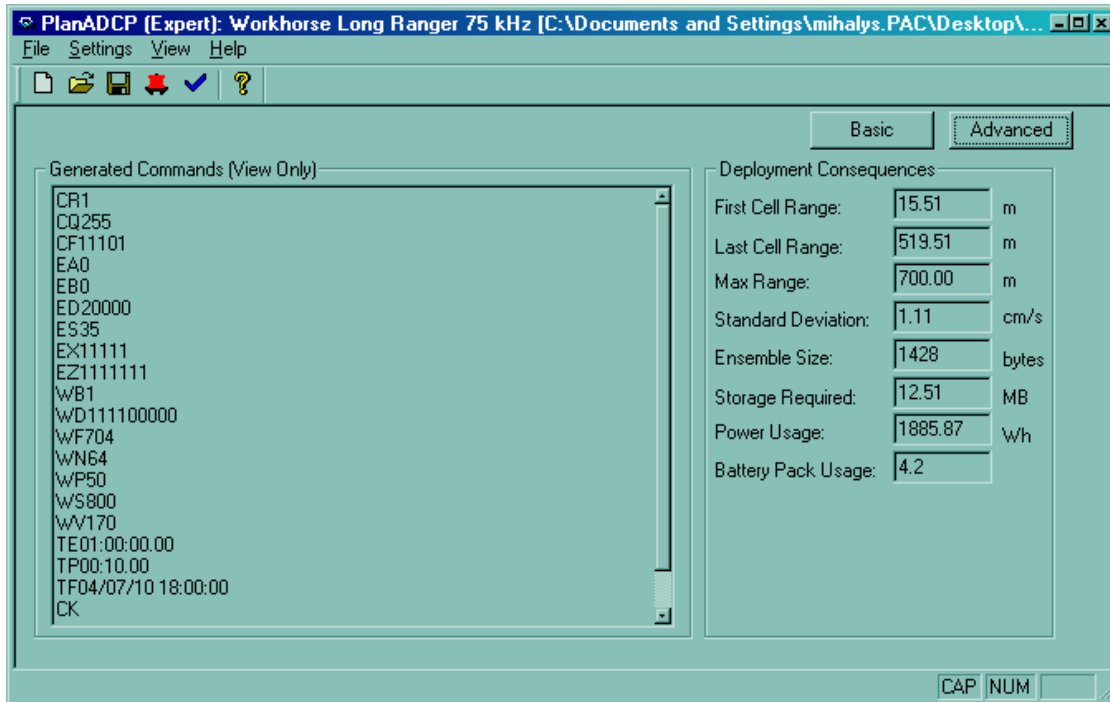
Power Usage: 1885.87 Wh

Battery Pack Usage: 4.2

Notes

PST

CAP NUM



PREDEPLOYMENT TESTING AND WINSC DEPLOYMENT

>>>>>> Function starting 07/10/04 17:12:26 >>>>>>

[BREAK Wakeup A]

WorkHorse Broadband ADCP Version 16.21

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>DEPLOY?

Deployment Commands: (previous deployment-current status)

WD = 111 100 000 ----- Data Out (Vel,Cor,Amp; PG,St,P0; P1,P2,P3)

WF = 0704 ----- Blank After Transmit (cm)

WN = 128 ----- Number of depth cells (1-128)

WP = 00086 ----- Pings per Ensemble (0-16384)

WS = 0400 ----- Depth Cell Size (cm)

WV = 050 ----- Mode 1 Ambiguity Vel (cm/s radial)

BP = 000 ----- Bottom Track Pings per Ensemble

TE = 01:00:00.00 ----- Time per Ensemble (hrs:min:sec.sec/100)

TF = **/**/**, **:**:** --- Time of First Ping (yr/mon/day,hour:min:sec)

TP = 00:10.00 ----- Time per Ping (min:sec.sec/100)

TS = 04/07/10,17:12:30 --- Time Set (yr/mon/day,hour:min:sec)

EA = +00000 ----- Heading Alignment (1/100 deg)

EB = +00000 ----- Heading Bias (1/100 deg)

ED = 02100 ----- Transducer Depth (0 - 65535 dm)

ES = 35 ----- Salinity (0-40 pp thousand)

EX = 11111 ----- Coord Transform (Xform: Type,Tilts,3 Bm,Map)

EZ = 1111101 ----- Sensor Source (C,D,H,P,R,S,T)
CF = 11101 ----- Flow Ctrl (EnsCyc;PngCyc;Binry;Ser;Rec)
CK ----- Keep Parameters as USER Defaults
CR # ----- Retrieve Parameters (0 = USER, 1 = FACTORY)
CS ----- Start Deployment

>TS? (time set)

TS = 04/07/10,17:14:11 --- Time Set (yr/mon/day,hour:min:sec)

>PS0 (instrument detail)

Instrument S/N: 3808
Frequency: 76800 HZ
Configuration: 4 BEAM, JANUS
Match Layer: 10
Beam Angle: 20 DEGREES
Beam Pattern: CONVEX
Orientation: DOWN
Sensor(s): HEADING TILT 1 TILT 2 DEPTH TEMPERATURE

PRESSURE

Pressure Sens Coefficients:

c3 = +4.372728E-11
c2 = -1.109075E-06
c1 = +1.026994E+00
Offset = +3.664970E+01

Temp Sens Offset: -0.18 degrees C

CPU Firmware: 16.21 [0]
Boot Code Ver: Required: 1.13 Actual: 1.13
DEMOD #1 Ver: ad48, Type: 1f
DEMOD #2 Ver: ad48, Type: 1f
PWRTIMG Ver: 85d3, Type: 5

Board Serial Number Data:

E5 00 00 02 48 B1 D4 09 HPI727-3007-00A
68 00 00 02 FB AC F2 09 TUN727-1005-06X
D5 00 00 02 FB AE 3A 09 DSP727-2001-06F
11 00 00 02 FB 89 AE 09 REC727-1004-06X
25 00 00 02 48 B2 09 09 HPA727-3009-00A
CC 00 00 02 FB 8D 4B 09 CPU727-2000-00H

>PA

PRE-DEPLOYMENT TESTS

CPU TESTS:

RTC.....PASS
RAM.....PASS
ROM.....PASS

RECORDER TESTS:

PC Card #0.....NOT DETECTED
PC Card #1.....DETECTED
Card Detect.....PASS
Communication.....PASS
DOS Structure.....PASS
Sector Test (short).....PASS

DSP TESTS:

```

Timing RAM.....PASS
Demod RAM.....PASS
Demod REG.....PASS
FIFOs.....PASS
SYSTEM TESTS:
XILINX Interrupts... IRQ3 IRQ3 IRQ3 ...PASS
Receive Loop-Back.....PASS
Wide Bandwidth.....***FAIL***
Narrow Bandwidth.....***FAIL***
RSSI Filter.....PASS
Transmit.....***FAIL***
SENSOR TESTS:
H/W Operation.....PASS
>PC2

```

Press any key to quit sensor display ...

Heading	Pitch	Roll	Up/Down	Attitude Temp	Ambient Temp	
PRESSURE						
352.420	0.980	3.620	Down	18.160C	17.760C	-
9.6 kPa						
352.770	1.930	3.780	Down	18.160C	17.770C	-
5.7 kPa						
351.440	2.040	4.890	Down	18.170C	17.780C	
4.2 kPa						
349.370	1.340	5.630	Down	18.120C	17.780C	-
20.5 kPa						
347.820	0.600	5.620	Down	18.110C	17.780C	
22.1 kPa						
347.530	-0.150	4.950	Down	18.120C	17.760C	-
16.6 kPa						
348.630	-0.610	4.030	Down	18.130C	17.780C	-
11.0 kPa						
350.820	-0.370	3.760	Down	18.120C	17.780C	
0.1 kPa						
352.330	0.210	4.030	Down	18.120C	17.780C	-
23.9 kPa						
352.260	-0.040	3.850	Down	18.120C	17.770C	-
9.8 kPa						
351.640	-0.090	3.960	Down	18.120C	17.770C	
0.1 kPa						

```

>RS
RS = 022,039 ----- REC SPACE USED (MB), FREE (MB)

```

>PC1

BEAM CONTINUITY TEST

When prompted to do so, vigorously rub the selected beam's face.

If a beam does not PASS the test, send any character to the ADCP to automatically select the next beam.

Collecting Statistical Data...

[illegible]

```
22 28 26 24
22 28 26 24
22 28 26 24
22 28 26 24
22 28 26 24
22 28 26 24
22 28 26 24
22 28 26 24
```

```
Rub Beam 1 = PASS
Rub Beam 2 = PASS
Rub Beam 3 = PASS
Rub Beam 4 = PASS
```

```
>CZ
```

```
Powering Down
```

WINSC DEPLOYMENT

```
>>>>> Function starting 07/10/04 17:18:21 >>>>>
```

```
[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.21
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>CR1
[Parameters set to FACTORY defaults]
>CQ255
>CF11101
>EA0
>EB0
>ED21000
>ES35
>EX11111
>EZ1111111
>WB1
>WD111100000
>WF704
>WN64
>WP50
>WS800
>WV170
>TE01:00:00.00
>TP00:10.00
>TF04/07/10 18:00:00
>CK
[Parameters saved as USER defaults]
>The command CS is not allowed in this command file. It has been
ignored.
>The following commands are generated by this program:
>CF?
CF = 11101 ----- Flow Ctrl (EnsCyc;PngCyc;Binry;Ser;Rec)
>CF11101
>RN 3808_
>CS
```

FINAL COMMUNICATION WITH TERMINAL PROGRAM

[BREAK Wakeup A]

WorkHorse Broadband ADCP Version 16.21

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>deploy?

Deployment Commands:

RE ----- Recorder ErAsE

RN ----- Set Deployment Name

WD = 111 100 000 ----- Data Out (Vel,Cor,Amp; PG,St,P0; P1,P2,P3)

WF = 0704 ----- Blank After Transmit (cm)

WN = 064 ----- Number of depth cells (1-128)

WP = 00050 ----- Pings per Ensemble (0-16384)

WS = 0800 ----- Depth Cell Size (cm)

WV = 170 ----- Mode 1 Ambiguity Vel (cm/s radial)

BP = 000 ----- Bottom Track Pings per Ensemble

TE = 01:00:00.00 ----- Time per Ensemble (hrs:min:sec.sec/100)

TF = **/**/**, **:**:** --- Time of First Ping (yr/mon/day,hour:min:sec)

TP = 00:10.00 ----- Time per Ping (minsec.sec/100)

TS = 04/07/10,17:19:41 --- Time Set (yr/mon/day,hour:min:sec)

EA = +00000 ----- Heading Alignment (1/100 deg)

EB = +00000 ----- Heading Bias (1/100 deg)

ED = 21000 ----- Transducer Depth (0 - 65535 dm)

ES = 35 ----- Salinity (0-40 pp thousand)

EX = 11111 ----- Coord Transform (Xform: Type,Tilts,3 Bm,Map)

EZ = 1111111 ----- Sensor Source (C,D,H,P,R,S,T)

CF = 11101 ----- Flow Ctrl (EnsCyc;PngCyc;Binry;Ser;Rec)

CK ----- Keep Parameters as USER Defaults

CR # ----- Retrieve Parameters (0 = USER, 1 = FACTORY)

CS ----- Start Deployment

>RN?

Current deployment name = 3808_

>experton

Expert Mode is ON

>w?

WA = 050 ----- False Target Threshold (Max) (0-255 counts)

WB = 1 ----- Bandwidth Control (0=Wid,1=Nar)

WC = 064 ----- Correlation Threshold

WD = 111 100 000 ----- Data Out (Vel;Cor;Amp PG;St;P0 P1;P2;P3)

WE = 2000 ----- Error Velocity Threshold (0-5000 mm/s)

WF = 0704 ----- Blank After Transmit (cm)

WI = 0 ----- Clip Data Past Bottom (0=OFF,1=ON)

WJ = 1 ----- Rcvr Gain Select (0=Low,1=High)

WK = 0000 ----- Mode 11 Depth Cell Size Override (cm) [0=Use WS]

WL = 001,005 ----- Water Reference Layer: Begin Cell (0=OFF), End Cell

WM = 01 ----- Profiling Mode (1,5,8,11)

WN = 064 ----- Number of depth cells (1-255)
 WP = 00050 ----- Pings per Ensemble (0-16384)
 WQ = 0 ----- Sample Ambient Sound (0=OFF,1=ON)
 WS = 0800 ----- Depth Cell Size (cm)
 WT = 0000 ----- Transmit Length (cm) [0 = Bin Length]
 WU = 0 ----- Ping Weighting (0=Box,1=Triangle)
 WV = 170 ----- Mode 1 Ambiguity Vel (cm/s radial)
 WW = 004 ----- Mode 1 Pings before Mode 4 Re-acquire
 WX = 999 ----- Mode 4 Ambiguity Vel (cm/s radial)
 WZ = 010 ----- Mode 5 Ambiguity Velocity (cm/s radial)
 >WV 125
 >c?
 CB = 811 ----- Serial Port Control (Baud [8=115200]; Par; Stop)
 CC = 000 000 000 ----- Choose External Devices (x;x;x x;x;x x;x;SBMC)
 CD = 000 000 000 ----- Serial Data Out (Vel;Cor;Amp PG;St;P0 P1;P2;P3)
 CE ----- Retrieve Last Ensemble
 CF = 11101 ----- Flow Ctrl (EnsCyc;PngCyc;Binry;Ser;Rec)
 CH = 0 ----- Suppress Banner
 CI = 000 ----- Instrument ID (0-255)
 CK ----- Keep Parameters as USER Defaults
 CL = 1 ----- Sleep Enable (0 = Disable, 1 = Enable)
 CM = 0 ----- RS-232 Sync Master (0 = OFF, 1 = ON)
 CN = 0 ----- Save NVRAM to recorder (0 = ON, 1 = OFF)
 CP = 0 ----- PolledMode (1=ON, 0=OFF; BREAK resets)
 CQ = 255 ----- Xmt Power (0=Low, 255=High)
 CR # ----- Retrieve Parameters (0 = USER, 1 = FACTORY)
 CS ----- Go (Start Pinging)
 CX = 0 ----- Trigger Enable (0 = OFF, 1 = ON)
 CY # ----- Error Status Word (0=Clear, 1=Display)
 CZ ----- Power Down Instrument
 >E?
 EA = +00000 ----- Heading Alignment (1/100 deg)
 EB = +00000 ----- Heading Bias (1/100 deg)
 EC = 1500 ----- Speed Of Sound (m/s)
 ED = 21000 ----- Transducer Depth (0 - 65535 dm)
 EH = 00000 ----- Heading (1/100 deg)
 EP = +0000 ----- Tilt 1 Sensor (1/100 deg)
 ER = +0000 ----- Tilt 2 Sensor (1/100 deg)
 ES = 35 ----- Salinity (0-40 pp thousand)
 ET = +2500 ----- Temperature (1/100 deg Celsius)
 EX = 11111 ----- Coord Transform (Xform:Type; Tilts; 3Bm; Map)
 EZ = 1111111 ----- Sensor Source (C;D;H;P;R;S;T)
 >T?
 TB = 00:00:00.00 ----- Time per Burst (hrs:min:s ec.sec/100)
 TC = 00000 ----- Ensembles Per Burst (0-65535)
 TE = 01:00:00.00 ----- Time per Ensemble (hrs:min:sec.sec/100)
 TF = **/**/**, **:**:** --- Time of First Ping (yr/mon/day,hour:min:sec)
 TG = ***/**/**, **:**:** - Time of First Ping (CCYY/MM/DD,hh:mm:ss)
 TP = 00:10.00 ----- Time per Ping (min:sec.sec/100)
 TS = 04/07/10,17:24:11 --- Time Set (yr/mon/day,hour:min:sec)
 TT = 2004/07/10,17:24:11 - Time Set (CCYY/MM/DD,hh:mm:ss)
 >TF 04/07/10,18:00:00
 >tf?
 TF = 04/07/10,18:00:00 --- Time of First Ping (yr/mon/day,hour:min:sec)
 >W?
 WA = 050 ----- False Target Threshold (Max) (0-255 counts)

WB = 1 ----- Bandwidth Control (0=Wid,1=Nar)
 WC = 064 ----- Correlation Threshold
 WD = 111 100 000 ----- Data Out (Vel;Cor;Amp PG;St;P0 P1;P2;P3)
 WE = 2000 ----- Error Velocity Threshold (0-5000 mm/s)
 WF = 0704 ----- Blank After Transmit (cm)
 WI = 0 ----- Clip Data Past Bottom (0=OFF,1=ON)
 WJ = 1 ----- Rcvr Gain Select (0=Low,1=High)
 WK = 0000 ----- Mode 11 Depth Cell Size Override (cm) [0=Use WS]
 WL = 001,005 ----- Water Reference Layer: Begin Cell (0=OFF), End Cell
 WM = 01 ----- Profiling Mode (1,5,8,11)
 WN = 064 ----- Number of depth cells (1-255)
 WP = 00050 ----- Pings per Ensemble (0-16384)
 WQ = 0 ----- Sample Ambient Sound (0=OFF,1=ON)
 WS = 0800 ----- Depth Cell Size (cm)
 WT = 0000 ----- Transmit Length (cm) [0 = Bin Length]
 WU = 0 ----- Ping Weighting (0=Box,1=Triangle)
 WV = 125 ----- Mode 1 Ambiguity Vel (cm/s radial)
 WW = 004 ----- Mode 1 Pings before Mode 4 Re-acquire
 WX = 999 ----- Mode 4 Ambiguity Vel (cm/s radial)
 WZ = 010 ----- Mode 5 Ambiguity Velocity (cm/s radial)
 >t?
 TB = 00:00:00.00 ----- Time per Burst (hrs:min:sec.sec/100)
 TC = 00000 ----- Ensembles Per Burst (0-65535)
 TE = 01:00:00.00 ----- Time per Ensemble (hrs:min:sec.sec/100)
 TF = 04/07/10,18:00:00 --- Time of First Ping (yr/mon/day,hour:min:sec)
 TG = 2004/07/10,18:00:00 - Time of First Ping (CCYY/MM/DD,hh:mm:ss)
 TP = 00:10.00 ----- Time per Ping (min:sec.sec/100)
 TS = 04/07/10,17:26:39 --- Time Set (yr/mon/day,hour:min:sec)
 TT = 2004/07/10,17:26:39 - Time Set (CCYY/MM/DD,hh:mm:ss)
 >c?
 CB = 811 ----- Serial Port Control (Baud [8=115200]; Par; Stop)
 CC = 000 000 000 ----- Choose External Devices (x;x;x x;x;x x;x;SBMC)
 CD = 000 000 000 ----- Serial Data Out (Vel;Cor;Amp PG;St;P0 P1;P2;P3)
 CE ----- Retrieve Last Ensemble
 CF = 11101 ----- Flow Ctrl (EnsCyc;PngCyc;Binry;Ser;Rec)
 CH = 0 ----- Suppress Banner
 CI = 000 ----- Instrument ID (0-255)
 CK ----- Keep Parameters as USER Defaults
 CL = 1 ----- Sleep Enable (0 = Disable, 1 = Enable)
 CM = 0 ----- RS-232 Sync Master (0 = OFF, 1 = ON)
 CN = 0 ----- Save NVRAM to recorder (0 = ON, 1 = OFF)
 CP = 0 ----- PolledMode (1=ON, 0=OFF; BREAK resets)
 CQ = 255 ----- Xmt Power (0=Low, 255=High)
 CR # ----- Retrieve Parameters (0 = USER, 1 = FACTORY)
 CS ----- Go (Start Pinging)
 CX = 0 ----- Trigger Enable (0 = OFF, 1 = ON)
 CY # ----- Error Status Word (0=Clear, 1=Display)
 CZ ----- Power Down Instrument
 >az
 Pressure Offset Updated in NVRAM.
 >cs

RECOVERY COMMUNICATIONS

Communications with ADCP ser no
cz command sent 0950 UTC

>cz

Powering Down

[BREAK Wakeup A]
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>?

Available Menus:

DEPLOY? ----- Deployment Commands
SYSTEM? ----- System Control, Data Recovery and Testing
Commands

Available Commands:

B? ----- BOTTOM TRACK Commands
C? ----- CONTROL Commands
E? ----- ENVIRONMENTAL SENSORS Commands
P? ----- PERFORMANCE Commands
S? ----- RDS^3 SYNCHRONIZATION Commands
T? ----- TIMING Commands
W? ----- WATER PROFILING Commands
R? ----- RECORDER Commands
A? ----- SENSOR/COMPASS Commands
O? ----- FEATURE Commands
D? ----- APPLIED MICROSYSTEMS Commands
?? ----- DISPLAY Quick Menus

>cz

Powering Down