

RDI 75kHz Long Ranger Deployment

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

Serial Number: 3867

Cruise: 2004-22

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

Station: ER04 Y2

Deployment Date: 2019, 10 July 2004 PDT

Position: 47° 58.390' N, 129° 05.054' W

Depth on Sounder: 2175m

Recovery Date: 1559, 20 July 2005 PDT on cruise 2005-16

Deployed 6 m above bottom with Aanderaa CM 20m above and microcat below

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	1400, 10 July 2004 PST
Power	High

PlanADCP v.2.01 (2002) output:

PlanADCP (Basic): Workhorse Long Ranger 75 kHz [Dpl1]

BackToSC Settings View Help

Cell Size 8.00m

First Cell 15.41m

Max Range 596.19m

Last Cell 503.41m

CAUTION: Not enough battery packs for the deployment.

Advanced

Proposed Setup:

Deployment Duration: 365 days

Ensemble Interval: 01:00:00

Salinity: 35 ppt

Temperature: 2 °C

Water Pings: 50

Number of Depth Cells: 62

Depth Cell Size: 8 m

Deployment Consequences:

First Cell Range: 15.41 m

Last Cell Range: 503.41 m

Max Range: 596.19 m

Standard Deviation: 1.11 cm/s

Ensemble Size: 1388 bytes

Storage Required: 12.16 MB

Power Usage: 1874.31 Wh

Battery Pack Usage: 4.2

Notes

PST SFM

NUM

PlanADCP (Advanced): Workhorse Long Ranger 75 kHz [Dpl1]

BackToSC 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 2:30:00 PM

Profiling Setup:

Pings Per Ensemble: 50

Number of Depth Cells: 62

Depth Cell Size: 8 m

Deployment Consequences:

First Cell Range: 15.51 m

Last Cell Range: 503.51 m

Max Range: 700.00 m

Standard Deviation: 1.11 cm/s

Ensemble Size: 1388 bytes

Storage Required: 12.16 MB

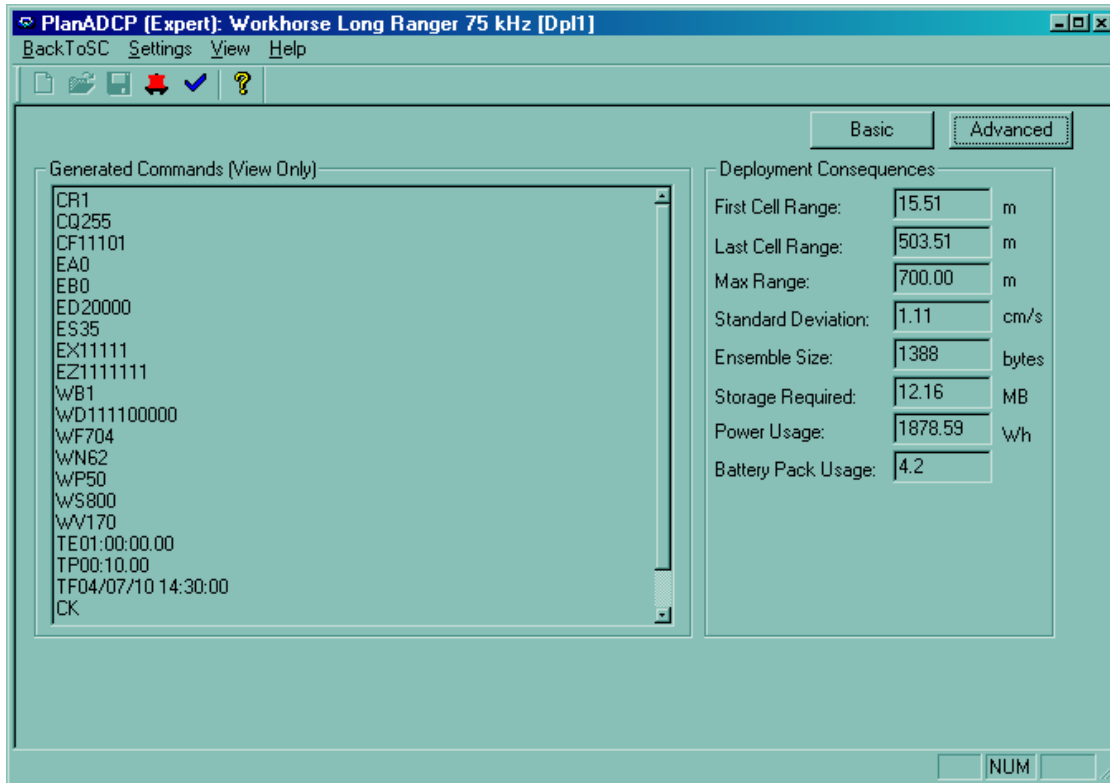
Power Usage: 1878.59 Wh

Battery Pack Usage: 4.2

Notes

PST SFM

NUM



PRE-DEPLOYMENT TESTING AND WINSC DEPLOYMENT

>>>>> Function starting 07/10/04 12:58:12 >>>>>

```
[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.21
RD Instruments (c) 1996-2002
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>TS040710125815
>CZ
```

Powering Down

>>>>> Function starting 07/10/04 12:58:38 >>>>>

```
[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.21
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>DEPLOY?
Deployment Commands: Previous State
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 = 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)

 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 = 04/07/10,12:58:40 --- 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 = 34 ----- 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)

Press any key to continue

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

>SYSTEM?

System Control, Data Recovery and Testing Commands:

AC ----- Output Active Fluxgate & Tilt Calibration data
 AF ----- Field calibrate to remove hard/soft iron error
 AR ----- Restore factory fluxgate calibration data
 AX ----- Examine compass performance
 AZ ----- Zero pressure reading

 CB = 811 ----- Serial Port Control (Baud; Par; Stop)
 CP # ----- Polled Mode (0 = NORMAL, 1 = POLLED)
 CZ ----- Power Down Instrument

 FC ----- Clear Fault Log
 FD ----- Display Fault Log

 OL ----- Display Features List

 PA ----- Pre-Deployment Tests
 PC1 ----- Beam Continuity
 PC2 ----- Sensor Data
 PS0 ----- System Configuration
 PS3 ----- Transformation Matrices

RR ----- Recorder Directory

Press any key to continue

RF ----- Recorder Space used/free (bytes)
 RY ----- Upload Recorder Files to Host

>TS?

TS = 04/07/10,12:59:58 --- Time Set (yr/mon/day, hour:min:sec)

```

>PS0
  Instrument S/N: 3867
    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 = +4.455094E-11
    c2 = -1.355289E-06
    c1 = +9.525920E-01
    Offset = +1.850937E+01

Temp Sens Offset: -0.13 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:
  88 00 00 02 FB B2 3A 09 CPU727-2000-00H
  C9 00 00 02 48 A5 7A 09 HPI727-3007-00A
  EE 00 00 02 FB B0 46 09 TUN727-1005-06X
  F1 00 00 02 FB B4 46 09 DSP727-2001-06F
  72 00 00 02 FB 79 FB 09 REC727-1004-06X
  CE 00 00 02 48 B1 27 09 HPA727-3009-00A
>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						
187.410	-1.640	4.960	Down	16.670C	16.440C	-
1.9 kPa						
188.560	-1.000	4.940	Down	16.660C	16.460C	-
34.1 kPa						
189.580	-0.220	4.870	Down	16.670C	16.450C	
0.2 kPa						
189.600	-0.690	5.120	Down	16.670C	16.450C	-
10.6 kPa						
189.100	-1.920	5.850	Down	16.630C	16.470C	
10.1 kPa						
188.200	-3.360	7.010	Down	16.630C	16.450C	-
0.2 kPa						
188.340	-4.210	7.670	Down	16.630C	16.460C	
9.6 kPa						
189.140	-3.800	7.600	Down	16.620C	16.450C	-
7.2 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...
  28  29  32  33

```

```

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

```

```

>CZ

```

Powering Down

```

>>>>> Function starting 07/10/04 13:04:14 >>>>>

```

```

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.21

```

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>CR1

[Parameters set to FACTORY defaults]

>CQ255

>CF11101

>EA0

>EB0

>ED20000

>ES35

>EX11111

>EZ1111111

>WB1

>WD111100000

>WF704

>WN62

>WP50

>WS800

>WV170

>TE01:00:00.00

>TP00:10.00

>TF04/07/10 14:30:00

>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 3867_

>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 = 062 ----- 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)

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 = 04/07/10,13:09:54 --- Time Set (yr/mon/day,hour:min:sec)

EA = +00000 ----- Heading Alignment (1/100 deg)
 EB = +00000 ----- Heading Bias (1/100 deg)
 ED = 20000 ----- 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

>system

System Control, Data Recovery and Testing Commands:

AC ----- Output Active Fluxgate & Tilt Calibration data
 AF ----- Field calibrate to remove hard/soft iron error
 AR ----- Restore factory fluxgate calibration data
 AX ----- Examine compass performance
 AZ ----- Zero pressure reading

CB = 811 ----- Serial Port Control (Baud; Par; Stop)
 CP # ----- Polled Mode (0 = NORMAL, 1 = POLLED)
 CZ ----- Power Down Instrument

FC ----- Clear Fault Log
 FD ----- Display Fault Log

OL ----- Display Features List

PA ----- Pre-Deployment Tests
 PC1 ----- Beam Continuity
 PC2 ----- Sensor Data
 PS0 ----- System Configuration
 PS3 ----- Transformation Matrices

RR ----- Recorder Directory
 RF ----- Recorder Space used/free (bytes)
 RY ----- Upload Recorder Files to Host

>az

Pressure Offset Updated in NVRAM.

>t?

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 = 04/07/10,13:11:06 --- Time Set (yr/mon/day,hour:min:sec)
 TT = 2004/07/10,13:11:06 - Time Set (CCYY/MM/DD,hh:mm:ss)

>ts?

TS = 04/07/10,13:12:02 --- Time Set (yr/mon/day,hour:min:sec)

>TF ERR 002: NUMERAL EXPECTED

>TF?

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

>TF 04/07/10,14:00:00.00 ERR 005: EXTRA PARAMETERS ENCOUNTERED

```

>
>TF 04/07/10,14:00:00
>TF?
TF = 04/07/10,14:00:00 --- Time of First Ping (yr/mon/day,hour:min:sec)
>experton
Expert Mode is ON
>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 = 04/07/10,14:00:00 --- Time of First Ping (yr/mon/day,hour:min:sec)
TG = 2004/07/10,14:00:00 - Time of First Ping (CCYY/MM/DD,hh:mm:ss)
TP = 00:10.00 ----- Time per Ping (min:sec.sec/100)
TS = 04/07/10,13:15:13 --- Time Set (yr/mon/day,hour:min:sec)
TT = 2004/07/10,13:15:13 - 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
>E?
EA = +00000 ----- Heading Alignment (1/100 deg)
EB = +00000 ----- Heading Bias (1/100 deg)
EC = 1500 ----- Speed Of Sound (m/s)
ED = 20000 ----- 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)
>ET 170
>et?
ET = +0170 ----- Temperature (1/100 deg Celsius)
>B? ERR 010: UNRECOGNIZED COMMAND
>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)
 WL = 001,005 ----- Water Reference Layer: Begin Cell (0=OFF), End Cell
 WN = 062 ----- 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)
 >WN 64
 >WV 125
 >wV?
 WV = 125 ----- Mode 1 Ambiguity Vel (cm/s radial)
 >cs?
 CS ----- Go (Start Pinging)
 >cs**Final Command**

RECOVERY COMMUNICATIONS

Serial no. 3867
 cz command at 1:37 AM UTC

[BREAK Wakeup A]
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 >cz

Powering Down