

DEPLOYMENT RECORD

Project Name: Juan de Fuca Start Date: May 2008 End Date: Sep. 2008
 Mooring Name: JF2C-L Station Name: JF2C

Geog. Desc.: Mid Channel Juan de Fuca Tide: +1m Becher Bay
 Latitude: 48°21.476' Longitude: 124°12.752'
 Water Depth: 184m datum Ice Thickness: —
 Magnetic decl: — Time Zone: — Anchor Type: 2 wheels 1455 lbs.
 Date: May 2, 2008 Time Anchor Dropped: 0947 PDT Date: —
 Remarks: —

RECOVERY RECORD

Date: Nov. 14, 2008 Time Anchor Released: 1519 PDT
 Remarks: recovered without incident

INSTRUMENTS (Start at TOP)

Type	Serial #	Depth	Time in	Time Out	Notes
WH75	8865	174m	1644 UTC		
Norte K	2651	178m	H.		RS-422
SBE37	5304				Pump

Argos 7068

Rng

Release	Serial	R Code	Arm Code	Freq	On/Off	B0	B1	Aux Codes
AR861	731	1655	16B1	16B1				
Pinger 1	Type	Serial	Pinger 2	Type	Serial	Battery Volt		
RJE	1/2 x 27	n/a.	—			6.3		

FLOTATION

Type	Serial #	Size	Colour
4.5" x 1500m Floater			Foam Orange

Type	Serial #	Size	Colour

Data Entry by:

RDI 75/150/300/600kHz Long Ranger/Workhorse Deployment

Project: JF2C-L

Serial Number: 8865

Cruise: 2008-32

Platform: TULLY

Station: _____

Deployment Date: May 2/08

Position: _____

Depth on Sounder: _____

Recovery Date: _____

Parameters

Ensemble Interval	
Bin Size	4m
Number of Pings	
Number of Bins	45
Observations	
Ambiguity Velocity	1.75 m/s
Water Profiling Mode	WBO
Time	
Start Time	1900 UTC @ May 2/08
Power	High

note: please have Titanium hardware ready
for tx lead and bottom pack rather than
Stainless 316

2550

7083

CY-Seq

• 95 •

9016

Figure 1

51

2000

80/2 part 2 - 1700 0000

1875
 The first year of the
 year 1875

PlanADCP (Advanced) : [Dpl1]

BackToSC Settings View Help

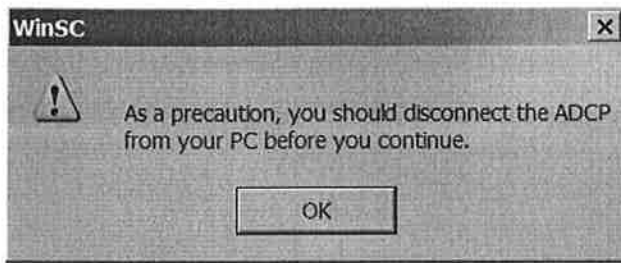
Basic Advanced Expert

Environmental Setup: Transducer Depth: 180 m Salinity: 34 ppt Magnetic Variation: 0 ° Temperature: 7 °C	Profiling Setup: Pings Per Ensemble: 70 Number of Depth Cells: 45 Depth Cell Size: 4 m	Deployment Consequences: First Cell Range: 12.85 m Last Cell Range: 188.85 m Max Range: 431.69 m Standard Deviation: 1.79 cm/s Ensemble Size: 1054 bytes Storage Required: 8.68 MB Power Usage: 1775.02 Wh Battery Pack Usage: 3.9
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Deployment Timing Setup: Duration: 180 days Ensemble Interval: 00:30:00.00 Ping Int (☒ Auto): 00:00:25.71 Min TP ☐ Ping Immediately After Deployment First Ping Date and Time: 02-May-2008 20:00:00	Notes JF2C-L 8865 4 BATTERY PACKS, 64Mb MEM START May 2 @ 2000UTC
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Workhorse Long Ranger: 75 kHz/ High Power/ High Res./ 4 Battery Packs/ Memory: 64 MB

CR1
 CQ255
 CF11101
 EA0
 EB0
 ED1800
 ES34
 EX11111
 EZ1111111
 WA50
 WB0
 WD111100000
 WF704
 WN45
 WP70
 WS400
 WV175
 TE00:30:00.00
 TP00:25.71
 TF08/05/02 20:00:00
 CK
 CS



>>>>>> Function starting 05/01/08 22:22:56 >>>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.28
RD Instruments (c) 1996-2005
All Rights Reserved.
>TS080501222259
>CZ

Powering Down

>>>>>> Function starting 05/01/08 22:23:06 >>>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.28
RD Instruments (c) 1996-2005
All Rights Reserved.
>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 = 063 ----- Number of depth cells (1-128)
WP = 00057 ----- Pings per Ensemble (0-16384)
WS = 0800 ----- Depth Cell Size (cm)
WV = 175 ----- 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 = 00:02.16 ----- Time per Ping (min:sec.sec/100)
TS = 08/05/01,22:23:08 --- Time Set (yr/mon/day, hour:min:sec)

EA = +00000 ----- Heading Alignment (1/100 deg)
EB = +00000 ----- Heading Bias (1/100 deg)
ED = 04900 ----- Transducer Depth (0 - 65535 dm)
ES = 32 ----- 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 = 411 ----- 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

>TS?

TS = 08/05/01,22:23:16 --- Time Set (yr/mon/day,hour:min:sec)

>PS0

Instrument S/N: 8865

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 = -2.680989E-15

c2 = -7.961946E-08

c1 = +5.736878E-01

Offset = +7.686125E+01

Temp Sens Offset: -0.13 degrees C

CPU Firmware: 16.28 [0]

Boot Code Ver: Required: 1.13 Actual: 1.13

DEM0D #1 Ver: ad48, Type: 1f

DEM0D #2 Ver: ad48, Type: 1f

PWRTIMG Ver: 85d3, Type: 6

Board Serial Number Data:

2D 00 00 00 93 AF 48 09 CPU727-2000-00J

BF 00 00 00 82 BE 52 09 HPA727-3009-00A

64 00 00 00 93 A2 66 09 REC727-1004-06A
7A 00 00 00 7E 99 AE 09 TUN727-1005-06A
72 00 00 00 86 83 05 09 HPI727-3007-00A
B7 00 00 00 86 9D 47 09 DSP727-2001-06G
>PA

PRE-DEPLOYMENT TESTS

CPU TESTS:

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

RECORDER TESTS:

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

DSP TESTS:

Timing RAM.....PASS
Demod RAM.....PASS
Demod REG.....PASS
FIFOs.....PASS

SYSTEM TESTS:

XILINX Interrupts... IRQ3 IRQ3 IRQ3 ...PASS
Wide Bandwidth.....***FAIL***
Narrow Bandwidth.....***FAIL***
RSSI Filter.....PASS
Transmit.....PASS

SENSOR TESTS:

H/W Operation.....PASS
>PC2

Press any key to quit sensor display ...

All Sensors are Internal Only.

Heading	Pitch	Roll	Up/Down	Attitude Temp	Ambient Temp	PRESSURE
213.43ø	-1.98ø	-2.47ø	Down	17.62øC	16.08øC	3.1 kPa

>RS

RS = 008,053 ----- 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...

30 38 39 34

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

>CZ

Powering Down

>>>>> Function starting 05/01/08 22:27:07 >>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.28
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>AZ

Pressure Offset Updated in NVRAM.

>CZ

Powering Down

>>>>> Function starting 05/01/08 22:27:13 >>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.28
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>RE ErAsE erasing...

Recorder erased.

>CZ

Powering Down

>>>>> Function starting 05/01/08 22:28:57 >>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.28
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>RR

Recorder Directory:

Volume serial number for device #0 is c497-71b7

No files found.

Bytes used on device #0 = 0
Total capacity = 63680512 bytes
Total bytes used = 0 bytes in 0 files
Total bytes free = 63680512 bytes

>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.28
RD Instruments (c) 1996-2005

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>CR1

[Parameters set to FACTORY defaults]

>CQ255

>CF11101

>EA0

>EB0

>ED1800

>ES34

>EX11111

>EZ1111111

>WA50

>WB0

>WD111100000

>WF704

>WN45

>WP70

>WS400

>WV175

>TE00:30:00.00

>TP00:25.71

>TF08/05/02 20:00:00

>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 JF2CL

>cs

Mooring: JF2C-L

UCats x 3

5304 (PUMPED)

Battery Calculations:

Sampling Time:

$$3.33s + (2.27 * (NAVG - 1))$$

$$3.33s + (2.27 * (4 - 1)) = 10.14s$$

Example 1: A standard MicroCAT (no external power option) with pressure sensor is set up to sample autonomously every 10 minutes (6 samples/hour), taking 4 measurement per sample (**NAVG=4**). How long can it be deployed?

$$\text{Sampling time} = 3.33 \text{ seconds} + 2.27 \text{ seconds} * (\text{NAVG} - 1) = 10.14 \text{ seconds}$$

Sampling current consumption = 0.020 amps * 10.14 seconds = 0.2 amp-seconds/sample

In 1 hour, sampling current consumption = 6 * 0.2 amp-seconds/sample = 1.2 amp-seconds/hour

Pump current consumption = 0.13 amp-seconds/pulse

In 1 hour, pump current consumption = 6 * 0.13 amp-seconds/pulse = 0.78 amp-seconds/hour

Quiescent current 10 microamps = 0.01 mA

In 1 hour, quiescent current consumption = 0.01 mA * 3600 seconds/hour = 0.036 amp-seconds/hour

Total current consumption / hour = 1.2 + 0.78 + 0.036 = 2.02 amp-seconds/hour

Capacity = (5 amp-hours * 3600 seconds/hr) / (2.02 amp-seconds/hour) = 8910

hours = 371 days = 1.02 years

Number of samples = 8910 hours * 6 samples/hour = 53460 samples

S>OUTPUTSAL=Y

S>OUTPUTSV=Y

S>FORMAT=1

S>PUMPINSTALLED=Y

S>SAMPLENUM=0

S>INTERVAL=600

S>STORETIME=Y

S>TXREALTIME=N

S>STARTDDMMYY=020508

S>STARTRHHMMSS=200000

start time = 02 May 2008 20:00:00

DS

SBE37-SM V 2.6b SERIAL NO. 5304 01 Jan 1980 08:00:19

logging not started

sample interval = 600 seconds

samplenum = 32691, free = 157959

do not transmit real-time data

output salinity with each sample

output sound velocity with each sample

store time with each sample

number of samples to average = 4

serial sync mode disabled

wait time after serial sync sampling = 30 seconds

internal pump is installed

temperature = 16.84 deg C

S>MMDDYY=040108

S>HHMMSS=233800

S>DS

SBE37-SM V 2.6b SERIAL NO. 5304 01 Apr 2008 23:38:01

logging not started

sample interval = 600 seconds

samplenum = 32691, free = 157959

do not transmit real-time data

output salinity with each sample

output sound velocity with each sample

store time with each sample

number of samples to average = 4

serial sync mode disabled

wait time after serial sync sampling = 30 seconds

internal pump is installed

temperature = 16.80 deg C

S>QS

□□SBE 37-SM

S>DS

SBE37-SM V 2.6b SERIAL NO. 5304 01 Apr 2008 23:38:11

logging not started

sample interval = 600 seconds

samplenum = 32691, free = 157959

do not transmit real-time data

output salinity with each sample

output sound velocity with each sample

store time with each sample

number of samples to average = 4

serial sync mode disabled

wait time after serial sync sampling = 30 seconds

internal pump is installed

temperature = 16.82 deg C

S>DDMMYY=1□010508

S>HHMMSS=233845

S>DS

SBE37-SM V 2.6b SERIAL NO. 5304 01 May 2008 23:38:46

logging not started

sample interval = 600 seconds

samplenum = 32691, free = 157959

do not transmit real-time data

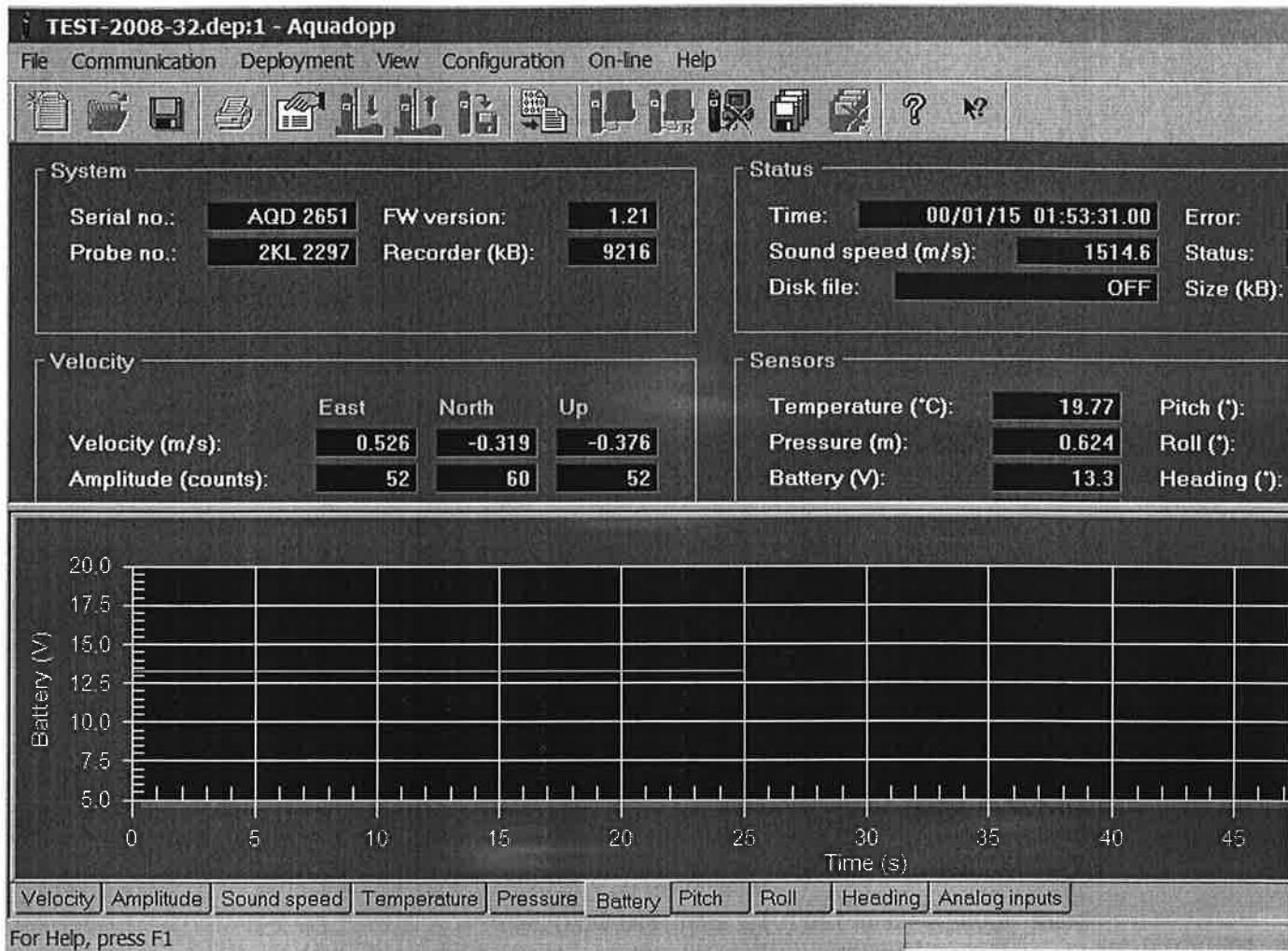
output salinity with each sample

output sound velocity with each sample

store time with each sample

number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 16.83 deg C
S>QS
□□SBE 37-SM
S>DS
SBE37-SM V 2.6b SERIAL NO. 5304 01 May 2008 23:38:52
logging not started
sample interval = 600 seconds
samplenum = 32691, free = 157959
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 16.83 deg C
S>OUTPUTSAL=Y
S>OUTPUTSV=Y
S>FORMAT=1
S>PUMPINSTALLED=Y
S>SAMPLENUM=0
S>INTERVAL=600
S>STORETIME=Y
S>TXREALTIME=N
S>STARTDDMMYY=020508
S>STARTHHMMSS=200000
start time = 02 May 2008 20:00:00
S>DS
SBE37-SM V 2.6b SERIAL NO. 5304 01 May 2008 23:39:42
logging not started
sample interval = 600 seconds
samplenum = 0, free = 190650
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 16.79 deg C
S>STARTLATER
start time = 02 May 2008 20:00:00
□ü□SBE 37-SM
S>

JF2C-L
2651
START: APRIL 25, 2008 @ 1200UTC



Deployment Planning [X]

Standard | **Advanced**

Setup

Measurement interval (s):

Average interval (s):

Measurement load (%): ☒ Auto

Blanking dist (m):

Compass upd. rate (s):

Power level

High
Low

☐ File wrapping

Deployment planning

Assumed duration (days):

Battery utilization (% of 50 Wh):

Memory required (MB):

Vertical vel. prec. (cm/s):

Horizont vel. prec. (cm/s):

Speed of sound

☒ Measured

Salinity (ppt):

☐ Fixed (m/s):

Diagnostics

☒ Enable

Interval (min):

Number of samples:

Coordinate system

☒ ENU ☐ XYZ ☐ Beam

```

=====
Deployment : JF2C-L
Current time : 2008-04-23 19:38:38
Start at : 2008-04-25 12:00:00
Comment:
JF2C-L
2651
Start: 2008-04-25 @ 1200UTC End: Mid Oct
=====

```

```

=====
Measurement interval (s) : 1800
Average interval (s) : 120
Blanking distance (m) : 0.37
Diagnostics interval(min) : 1440
Diagnostics samples : 20
Measurement load (%) : 4
Power level : HIGH
Compass upd. rate (s) : 5
Coordinate System : ENU
Speed of sound (m/s) : MEASURED
Salinity (ppt) : 32
File wrapping : OFF
=====

```

```

=====
Assumed duration (days) : 180.0
Battery utilization (%) : 90.0
Battery level (V) : 13.4
Recorder size (MB) : 9
Recorder free space (MB) : 9.000
=====

```

Memory required (MB) : 0.5
Vertical vel. prec (cm/s) : 1.5
Horizon. vel. prec (cm/s) : 1.0

Aquadopp Version 1.23
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